

Exhibit A
Excerpts from Deposition Testimony of
Mark G. Duggan

Exhibit to the March 12, 2010 Motion *In Limine* to Exclude Certain Expert Opinions Proffered
by Plaintiffs' Expert Dr. Mark G. Duggan

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Washington, DC

February 27, 2009

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CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF MASSACHUSETTS

- - - - -X

IN RE: PHARMACEUTICAL : MDL NO. 1456

INDUSTRY AVERAGE WHOLESALE : CIVIL ACTION

PRICE LITIGATION : 01-CV-12257-PBS

THIS DOCUMENT RELATES TO: :

U.S. ex rel. Ven-a-Care of : Hon. Patti B. Saris

the Florida Keys, Inc. :

 v. :

Dey, Inc., et al. :

No. 05-11084-PBS :

- - - - -X

Washington, D.C.

Friday, February 27, 2009

VOLUME II

Continued Videotaped Deposition of MARK G.

DUGGAN, Ph.D., a witness herein, called for
examination by counsel for Dey, Inc. in the
above-entitled matter, pursuant to notice, the

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<p style="text-align: right;">395</p> <p>1 Traveler's to West New York. 2 Q. So you used CIGNA, Administar, Traveler's, 3 West New York, and Palmetto? 4 A. That's correct. And there is a sixth one 5 that is summarized in table 30 but as you can see 6 from the table on the left, bottom last quarter it 7 accounts for a minuscule share of the claims. 8 Q. And which carrier is that, 17003? 9 A. I don't, I don't recall the name of it. 10 Q. Now, you explain how the Medicare 11 reimbursement proceeds and in each one of these, each 12 one of these carriers, in order to carry out the 13 reimbursement process, each one of them sets up an 14 array of drugs to look at to try to determine the 15 price that would be used in reimbursement, correct? 16 A. It seems like a reasonable high level 17 summary of what is done. 18 Q. And you obtained arrays for the periods 19 that you were looking at in connection with the, that 20 would contain the Dey drugs on the six codes that you 21 were looking at, correct? 22 A. Can you please repeat that?</p>	<p style="text-align: right;">397</p> <p>1 essentially, I replaced the AWP's for the Dey products 2 with 125 percent of the price, the pharmacy average 3 indirect price, and then do the same for the Roxane 4 products in some cases. And this is -- I give 5 several examples of this in the report of sort of 6 what's involved. There was quite a bit of 7 information, but I sort of telescoped in on some of 8 the important features of the arrays and summarized 9 it directly in the report. 10 Q. And we'll go through that in a second, but 11 I take it that the -- on the arrays that you were 12 working with, the drugs that were, that composed the 13 array, you used the drugs that the particular carrier 14 had inserted into that array. You didn't change the 15 list of drugs at all? 16 A. That is in the vast majority of cases 17 true, but there are a couple of exceptions. 18 Q. Is there -- is there an array where you 19 added a drug that was not in the array constructed by 20 the DMERC? 21 A. Not that I recall. No. 22 Q. So in every, in every single array that</p>
<p style="text-align: right;">396</p> <p>1 THE REPORTER: "Question: And you 2 obtained arrays for the periods that you were looking 3 at in connection with the, that would contain the Dey 4 drugs on the six codes that you were looking at, 5 correct?" 6 THE WITNESS: So as I outline in my 7 report, at my direction, Myers and Stauffer produced 8 electronic versions of the arrays that were used by 9 the five carriers, five DMERCs during the time period 10 of interest. And I -- so I used those, I examined 11 and use those arrays. 12 BY MR. ESCOBAR: 13 Q. Okay. And what you -- first you had the 14 array that reflected the information that led to the 15 reimbursement that had actually already happened, 16 right? 17 A. That is correct. 18 Q. And then using the electronic format, you 19 were able to create or replicate those arrays using 20 the new pricing that you came up with after analyzing 21 the Dey data and Roxane data? Am I right? 22 A. That is correct. And just to be specific,</p>	<p style="text-align: right;">398</p> <p>1 you use to come up with your analysis in Medicare, 2 the drugs that are in the array were the drugs 3 selected by that specific carrier, correct? 4 A. Can you read that back? 5 THE REPORTER: "Question: So in every, in 6 every single array that you use to come up with your 7 analysis in Medicare, the drugs that are in the array 8 were the drugs selected by that specific carrier, 9 correct?" 10 THE WITNESS: To the, to the best of my 11 recollection, that is accurate. Trying to just grind 12 through, there are more than 100 arrays in effect 13 during this period, and so, but to the best of my 14 recollection, if I'm understanding the question 15 correctly, that is correct. 16 BY MR. ESCOBAR: 17 Q. And you didn't take out any drugs that 18 were in an array as constructed by the DMERC, did 19 you? 20 A. As I discuss in the report, and summarize 21 in table 35 of the report, there are some, so there 22 are a number of different scenarios that I consider</p>

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35 (Pages 403 to 406)

<p style="text-align: right;">403</p> <p>1 Q. Was the electronic array supposed to</p> <p>2 reflect faithfully the exact products that had been</p> <p>3 included by the carrier in the array that it</p> <p>4 constructed?</p> <p>5 A. Can you repeat that?</p> <p>6 THE REPORTER: "Question: Was the</p> <p>7 electronic array supposed to reflect faithfully the</p> <p>8 exact products that had been included by the carrier</p> <p>9 in the array that it constructed?"</p> <p>10 THE WITNESS: It is my understanding that</p> <p>11 the electronic versions of the arrays accurately</p> <p>12 portray the products that were used to determine</p> <p>13 Medicare reimbursement amounts. And I should just</p> <p>14 note that this is quite similar to some of what I had</p> <p>15 done in my earlier Abbott report and the -- the one</p> <p>16 thing that I am able to do with the data, with the</p> <p>17 Medicare data is to determine whether the amounts</p> <p>18 being paid correspond to what one would expect given</p> <p>19 what is observed in the electronic versions of the</p> <p>20 arrays.</p> <p>21 And so I certainly did, I certainly did</p> <p>22 and people at Steck Consulting certainly did at my</p>	<p style="text-align: right;">405</p> <p>1 because it comes from what was produced.</p> <p>2 A. Okay. So I'm taking that, assuming then</p> <p>3 that's what was produced. This is the Myers and</p> <p>4 Stauffer original.</p> <p>5 Q. Why did you have Myers and Stauffer do</p> <p>6 this work?</p> <p>7 A. Well, they -- at some level when I have to</p> <p>8 go back to the Abbott report because they did the</p> <p>9 same in the case of the Abbott report, so part of the</p> <p>10 reason that I had them do it in this case was that</p> <p>11 they had already developed and demonstrated</p> <p>12 considerable expertise in carrying this out for the</p> <p>13 Abbott report.</p> <p>14 BY MR. ESCOBAR:</p> <p>15 Q. Now let's go to the first panel on page 1</p> <p>16 is described as the original array per carrier array</p> <p>17 documents. Do you see that?</p> <p>18 A. Yes.</p> <p>19 Q. Okay. And it relates to code J 7644,</p> <p>20 right?</p> <p>21 A. That is correct.</p> <p>22 Q. And that's a code that covers ipratropium</p>
<p style="text-align: right;">404</p> <p>1 direction quite a lot to confirm that.</p> <p>2 (Exhibit Dey Duggan 007 was</p> <p>3 marked for identification.)</p> <p>4 BY MR. ESCOBAR:</p> <p>5 Q. Showing you what has been marked as</p> <p>6 Exhibit 7. And this is a portion of one of the, this</p> <p>7 is a portion of the CIGNA arrays so that we can go</p> <p>8 through it and see if I can understand what, what you</p> <p>9 did. Is this a product of the electronic arrays that</p> <p>10 Myers and Stauffer created from the CIGNA documents?</p> <p>11 A. The information included in the top half</p> <p>12 of the first page appears to consist of, appears to</p> <p>13 be the original array used by -- does it say, where</p> <p>14 does it say CIGNA? I guess it doesn't say CIGNA</p> <p>15 anywhere, so of course, I don't have the array</p> <p>16 memorized what --</p> <p>17 Q. It says CIGNA at the bottom right.</p> <p>18 A. Oh. Okay. So I see that this 2001</p> <p>19 quarter three CIGNA it seems to be, it looks familiar</p> <p>20 but whether it's identical to what's produced, it</p> <p>21 certainly looks like what -- it looks familiar.</p> <p>22 Q. This was identical to what was produced</p>	<p style="text-align: right;">406</p> <p>1 bromide unit dose one milligram, correct?</p> <p>2 A. Yes.</p> <p>3 Q. And then the -- this is a column that says</p> <p>4 price list drug name. Do you see that?</p> <p>5 A. Yes.</p> <p>6 Q. And the price, the price list drug names</p> <p>7 are divided into a category that contains generics</p> <p>8 and a category that contains brands, right?</p> <p>9 A. That products that are generic and</p> <p>10 products that are brand based on this carrier so the,</p> <p>11 I'm just trying to refresh here, so it appears the</p> <p>12 first 12 products listed here are generics and the</p> <p>13 next four products are treated by the DMERC as -- as</p> <p>14 brands. But as I discuss in -- so --</p> <p>15 Q. Okay. So -- and it's the, it's the DMERC</p> <p>16 that is the carrier CIGNA, somebody at the DMERC is</p> <p>17 the one that decided what drugs would go into this</p> <p>18 array and which drugs would be in the generic group</p> <p>19 and which would be in the brand, correct?</p> <p>20 A. Who exactly made this decision -- it could</p> <p>21 be. I know from my work in Abbott that there were</p> <p>22 cases in which carriers shared information on arrays,</p>

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<p style="text-align: right;">407</p> <p>1 but clearly someone at CIGNA -- well, they selected, 2 went through and selected these products or decided 3 to use them based on -- I don't know who exactly 4 decided this, but this array is the array that based 5 on my understanding was used by CIGNA. 6 Q. Okay. And do you know if this array 7 contained every manufacturer of an ipratropium 8 bromide unit dose? 9 A. At this time, I'm not certain how many 10 manufacturers were making this, making ipratropium 11 bromide, so it is possible that there are other, 12 there are other manufacturers not included here. I 13 just don't recall at this specific point in time, 14 2001 quarter three, how many, how many firms are 15 making ipratropium bromide. 16 Q. And in your review of the, what the 17 carriers did, you saw that in some instances, one 18 carrier would have more manufacturers and more 19 products than the same, than another carrier would 20 have for the exact same J code, am I right? 21 A. There was some variation across carriers 22 in certain quarters with respect to which products</p>	<p style="text-align: right;">409</p> <p>1 A. There were a number of, there were some 2 depositions of individuals at the DMERCs. I recall 3 skimming at least one of them, a woman from 4 Administar whose name I can't remember but there -- 5 it certainly, there were, there was some testimony 6 but I didn't, that wasn't -- I didn't drill down on 7 that in the way that I did these other parts that 8 we've been discussing. 9 Q. And adding or subtracting a product from 10 an array could potentially affect the median that 11 results from the array, is that right? 12 A. Potentially, yes. 13 Q. And do you know of any specific reason for 14 a carrier to make the judgment as to whether to add 15 or delete a product from an array? 16 A. I'm sorry. Can you repeat that, please? 17 THE REPORTER: "Question: And do you know 18 of any specific reason for a carrier to make the 19 judgment as to whether to add or delete a product 20 from an array?" 21 THE WITNESS: It's not something that I 22 examined closely and no particular factor is leaping</p>
<p style="text-align: right;">408</p> <p>1 were included and there was also some variation over 2 time within the same carrier with respect to which 3 products were included. 4 Q. And do you know what, how it would be that 5 in some quarters within the same carrier, it would 6 have different product listed in the array? Do you 7 know why that was? 8 A. Why different carriers had -- 9 Q. No. Start with the same carrier that in 10 different quarters may have different products listed 11 in the array for the same J code? 12 A. What factors led specific carriers to add 13 or subtract particular products from the array, what 14 factors caused that was not the focus of my analysis 15 so it would be difficult for me to say more about 16 that without -- that's just wasn't the focus of my 17 analysis. 18 Q. And did you read depositions of the people 19 who testified in this case from, who were 20 representatives of the various carriers to see how it 21 is they went about doing the arrays or anything 22 having to do with the reimbursement?</p>	<p style="text-align: right;">410</p> <p>1 to mind right now. It seems plausible that one 2 factor would include whether the products were in the 3 Red Book and -- would be, seems plausibly one factor. 4 As for other factors, that's just not something that 5 I've studied. 6 BY MR. ESCOBAR: 7 Q. Do you know whether there were any 8 products that were added or deleted based on what 9 their price was? 10 A. I'm -- I don't recall that. Learning of 11 that. 12 Q. Now, did you look into that specifically? 13 MR. HENDERSON: Added or deleted by the 14 carrier? 15 BY MR. ESCOBAR: 16 Q. Right. Because of the price. 17 A. I, in my analysis, I utilized the arrays 18 that were, that the carriers employed, the DMERCs 19 employed in determining allowed amounts. Why those 20 arrays changed over time or why they differed at a 21 point in time across carriers was not something that 22 I examined closely.</p>

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<p style="text-align: right;">459</p> <p>1 Q. Ratio?</p> <p>2 A. Of, so just -- let's take a specific</p> <p>3 quarter as an example. So 1997, quarter one, it is</p> <p>4 44012, the Roxane total divided by the sum of 44012</p> <p>5 and 882, which is about 98 percent.</p> <p>6 Q. So it's just comparing the share as</p> <p>7 between Roxane and Dey?</p> <p>8 A. Correct.</p> <p>9 Q. And it's leaving out any other companies</p> <p>10 that may, that may be part of the other total?</p> <p>11 A. It -- right. It doesn't include those,</p> <p>12 those NDCs and the other total.</p> <p>13 Q. And who made the decision to do it that</p> <p>14 way?</p> <p>15 A. That was, that was -- that was my</p> <p>16 decision.</p> <p>17 Q. And other total, just to clarify, other</p> <p>18 total on table 36 revised, what does that refer to?</p> <p>19 A. That reflects the total number of Medicaid</p> <p>20 prescriptions for any Ipra product included in any of</p> <p>21 the arrays by the DMERCs. So for example, if we went</p> <p>22 back to, we were talking about these Alharma, for</p>	<p style="text-align: right;">461</p> <p>1 the Medicare J code claims do not list which</p> <p>2 ipratropium bromide product is -- is being transacted</p> <p>3 in the prescription. So this data represents the</p> <p>4 sort of Medicaid market share for Dey and for Roxane</p> <p>5 for this, for this ingredient, and it is basically an</p> <p>6 estimate of the market share of Dey, Roxane and all</p> <p>7 other firms using the Medicaid data.</p> <p>8 Q. And which specific Medicaid database was</p> <p>9 looked at in order to come up with this?</p> <p>10 A. If I recall, it was the SDU data, the</p> <p>11 state drug utilization data.</p> <p>12 Q. And it's -- and that was based on</p> <p>13 prescriptions, right?</p> <p>14 A. That is correct as defined in SDU data.</p> <p>15 Q. Now, the revised tables obviously that's</p> <p>16 something that you created after you had submitted</p> <p>17 the Dey report, right?</p> <p>18 A. That is correct.</p> <p>19 Q. And is that because you were then working</p> <p>20 on a Roxane report? Is that how that came to be?</p> <p>21 A. That was part of the -- part of what led</p> <p>22 to the creation of these tables.</p>
<p style="text-align: right;">460</p> <p>1 example, Ipra products, they would be included in</p> <p>2 that other total.</p> <p>3 Q. And would the brands that are in the</p> <p>4 arrays be included in any of those, any other total</p> <p>5 as well?</p> <p>6 A. My recollection is, certainly the, you can</p> <p>7 see the three right most columns are the three Nova</p> <p>8 Plus products and those are definitely included in</p> <p>9 the totals. This Atavent product that we saw, I</p> <p>10 don't recall specifically if that one is in there.</p> <p>11 Q. Now, this is, table 36 revised is you're</p> <p>12 applying this to a Medicare, to your Medicare</p> <p>13 analysis, but the percentages are derived by looking</p> <p>14 at some Medicaid data, correct?</p> <p>15 A. That is correct. This is Medicaid</p> <p>16 reimbursed prescriptions by NDC and quarter. That's</p> <p>17 right.</p> <p>18 Q. Why were you using the Medicaid data to</p> <p>19 come up with these percentages that you're applying</p> <p>20 to your Medicare analysis?</p> <p>21 A. So the Medicare, as I discussed in my</p> <p>22 report, the Medicare J code claims do not include,</p>	<p style="text-align: right;">462</p> <p>1 Q. Now, if we go back to Exhibit 7, which is</p> <p>2 the array that, the panels of the arrays that we were</p> <p>3 looking at.</p> <p>4 A. Okay.</p> <p>5 Q. Now, in each instance where the array</p> <p>6 calculations yielded what the allowable was or what</p> <p>7 the amount that was computed by running through the</p> <p>8 array, that would only be used for reimbursement</p> <p>9 after comparing to the amount billed, right, by the</p> <p>10 provider?</p> <p>11 A. That is correct. And my recollection of</p> <p>12 the Medicare analysis is that similar to the, to</p> <p>13 Medicaid, a comparison is made between the amount</p> <p>14 generated from the formula and the amount whether</p> <p>15 it's called usual and customary or the charged amount</p> <p>16 or the billed amount. I don't remember, but that</p> <p>17 comparison, the lesser of those two is typically</p> <p>18 taken.</p> <p>19 Q. So it would always be the lesser of the</p> <p>20 amount yielded by the analysis of the array which</p> <p>21 would either be the median or the lower brand in the</p> <p>22 instance we were looking at, and then comparing what</p>

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<p style="text-align: right;">42</p> <p>1 Q. Do you understand, sir, that under rule 2 26 or under the rules that apply here that you are 3 required to provide us with a report that includes 4 the opinions that as of now you expect to provide 5 to the court and/or to a jury? 6 MS. THOMAS: Objection. 7 A. I guess I'm -- maybe I'm just 8 misunderstanding. 9 Q. Maybe. 10 A. This report summarizes the results from 11 my analysis of this issue, summarizes -- perhaps -- 12 I'm just trying to be precise because these are -- 13 this report summarizes my main findings for the 14 questions that I set out to answer. So I am 15 certainly not deliberately hiding anything here. 16 This is -- these are my findings for the effect of 17 these alternative prices on the Medicaid and 18 Medicare programs. And so these are the -- this 19 really provides an overview of my key findings. 20 And I certainly understand that my 21 report, the burden is on me in this report to -- or 22 in supplements to this report -- to summarize my</p>	<p style="text-align: right;">44</p> <p>1 THE WITNESS: Is it okay if I start out 2 with something that occurred to me at the break? 3 BY MS. SIDRYS: 4 Q. Sure. 5 A. Just as one example of something that's 6 not in my report but that it seems likely that I'm 7 going to revise. Apparently Roxane sold off some 8 of these products to Elan. And I was not aware of 9 that until earlier this week. One of the counsel 10 understood me of that. And so as a result of that 11 some of my Medicaid analyses are likely to change. 12 Q. Right. 13 A. And so I haven't yet drilled down on it. 14 But that's just one example of something. 15 Q. Okay. 16 A. And it didn't occur to me when you were 17 asking the question. But it's an example of 18 something that it's hard to pick up on the fly. 19 And as I reflected on the break -- so in any case - 20 - 21 Q. So that's something that's new that's 22 come to your attention that you will be likely</p>
<p style="text-align: right;">43</p> <p>1 opinions and findings. So I understand that. I 2 just don't know what might evolve in the months 3 ahead, whether it's experts. So -- 4 Q. Other than what might evolve in the 5 months ahead, this is an accurate statement of your 6 opinions as you sit here today, correct? 7 A. Yes, with the caveat that I mentioned 8 earlier, that embedded in this are -- 9 Q. Underlying assumptions? 10 A. Right. 11 Q. Are you doing okay break-wise or could we 12 keep going? 13 A. Sure. We can take a break. 14 Q. Whatever works best for you. 15 MS. SIDRYS: Can we take a five minute 16 break? Is that all right? 17 MR. HENDERSON: Yes. 18 THE VIDEOGRAPHER: Off the record at 19 10:26. 20 (Recess.) 21 THE VIDEOGRAPHER: On the record at 22 10:40.</p>	<p style="text-align: right;">45</p> <p>1 supplementing your report or your opinion with? 2 A. It seems plausible. That's right. 3 Q. It's plausible. Okay. Fair enough. 4 Thanks for raising that. 5 A. Right. 6 Q. Okay. And you understand you're still 7 under oath, right, sir? 8 A. Oh, sure. Absolutely. 9 Q. What did you discuss during break with 10 counsel? Did you discuss any of your prior 11 testimony this morning or? Why don't you relate 12 that to me. 13 A. I discussed the fact that still feel 14 pretty rattled from the commute in. 15 Q. Okay. 16 A. And that the commute in was very 17 stressful because I like to be on time. And a 18 deposition alone is stressful and then compounding 19 it with the commute. And so I sort of lamented 20 that to them. 21 Q. Okay. 22 A. That's the kind of thing that --</p>

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<p style="text-align: right;">46</p> <p>1 Q. You didn't discuss the substance of your 2 testimony, correct? Or did you?</p> <p>3 A. Well, I then asked about this issue, this 4 Elan issue, and whether it would be reasonable for 5 me to bring that up right after the break, because 6 I didn't know whether to mention that right after 7 the break. So that's an example of, yeah, 8 something else, and the fact that I was cold. So 9 anyway -- that's what leaps to mind right now.</p> <p>10 Q. I'm cold too, so -- okay. Let's move on. 11 All right. So I want to started talking at your 12 actual Medicaid and Medicare calculations and the 13 gut of your work. Okay?</p> <p>14 A. Sure.</p> <p>15 Q. And I believe what you've said is that 16 you did calculations and looked at data sets and 17 ultimately came up with what you believed were 18 alternative Roxane AWP's and WAC's, correct?</p> <p>19 A. I calculated transaction-based prices for 20 the Roxane products at issue in the case and 21 utilized those transaction-based prices in place of 22 AWP's and WAC's in my analyses for the Medicaid and</p>	<p style="text-align: right;">48</p> <p>1 Q. And when StoneTurn Group and I believe -- 2 A. Steck Consulting.</p> <p>3 Q. Okay. StoneTurn, Steck and another was 4 Myers and Stauffer did some work for you, correct?</p> <p>5 A. Correct.</p> <p>6 Q. When those three groups performed 7 analysis or did work for you it was all under your 8 direction, correct?</p> <p>9 A. Yes. They may have done other things 10 that weren't at my direction for -- but they 11 certainly -- to the extent that I make use of what 12 they did, that was at my direction. So I don't 13 know everything that -- yeah. So I think we're on 14 the same page.</p> <p>15 Q. I think so too. Whatever analysis are in 16 your report and/or that you ultimately relied on 17 that were performed by these groups was done under 18 your direction, correct?</p> <p>19 A. That is correct.</p> <p>20 Q. Okay. Did you review, scrutinize, what 21 they did so that you got to a certain comfort level 22 that it was reliable?</p>
<p style="text-align: right;">47</p> <p>1 Medicare programs.</p> <p>2 Q. Okay. And in performing and coming up 3 with your differences for both Medicaid and 4 Medicare, you used a number of various data sets, 5 correct?</p> <p>6 A. Yes.</p> <p>7 Q. You used Roxane transactional data, for 8 instance?</p> <p>9 A. Yes. And summaries of that data 10 constructed at my direction by the StoneTurn Group.</p> <p>11 Q. And you also used state claims data and 12 CMS data, correct?</p> <p>13 A. Correct. In the case of Medicaid. And 14 once again, just to be precise, for much of the 15 Medicaid and Medicare analyses Ian Dew and others 16 at Steck Consulting conducted analyses at my 17 direction. I did some as well. But they at my 18 direction did. So when you say you, I'll just try, 19 rather than sort of -- there is -- I won't -- I'm 20 happy to try to differentiate if you would like 21 what specifically one did versus the other. But 22 they did a number of analyses at my direction.</p>	<p style="text-align: right;">49</p> <p>1 A. Absolutely.</p> <p>2 Q. Okay.</p> <p>3 A. Just as one example, I worked with Myers 4 and Stauffer and Steck on my Abbott report and was 5 very impressed by their work in that case. You 6 know, I try to assume -- I try to be skeptical of 7 everything and scrutinize. And they did an 8 incredibly good job in that report. And so they 9 have certainly earned my trust and respect.</p> <p>10 Q. Okay. The same with the data. Was it 11 important to you that the data, both the Roxane 12 data, the claims data, and I guess the DMERC data 13 was scrutinized and tested?</p> <p>14 A. It's certainly true that Ian Dew and 15 others at Steck Consulting carefully analyzed that 16 data at my direction.</p> <p>17 Q. And that was an important step for you, I 18 take it. Correct?</p> <p>19 A. When you say that what do you mean by 20 that?</p> <p>21 Q. That the data itself was both accurate 22 and complete.</p>

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<p style="text-align: right;">50</p> <p>1 MR. HENDERSON: Objection.</p> <p>2 A. As an economist I know that virtually</p> <p>3 every data set has quirks, limitations and so</p> <p>4 forth. So one of the things I've been trained to</p> <p>5 do is given the limitations of any data set make</p> <p>6 the most of it and to the extent possible</p> <p>7 scrutinize it carefully.</p> <p>8 Q. And did you follow those procedures here?</p> <p>9 A. I -- in my analysis I endeavored to be</p> <p>10 very careful, methodical, and demanded the same of</p> <p>11 Steck and Myers and Stauffer and StoneTurn.</p> <p>12 Q. Was it important to you in coming up with</p> <p>13 your various calculations to use the most accurate</p> <p>14 data available to you?</p> <p>15 A. It depends on the situation. In the vast</p> <p>16 majority of cases that is true.</p> <p>17 Q. When would you not want to use the most</p> <p>18 accurate data available to you? Or when did you</p> <p>19 not use the most accurate data available to you?</p> <p>20 MS. THOMAS: Objection.</p> <p>21 A. So one example of a reason would be if a</p> <p>22 data set were quite incomplete, accurate during</p>	<p style="text-align: right;">52</p> <p>1 alternative data set; is that correct?</p> <p>2 A. Correct. That's -- yeah.</p> <p>3 Q. Okay. Did you generally, either you or</p> <p>4 these other three groups under your direction, go</p> <p>5 through and perform that analysis generally with</p> <p>6 the data; that is, to determine what data would be</p> <p>7 the most appropriate to use in your various</p> <p>8 analyses?</p> <p>9 A. Yes. That was one of the factors that</p> <p>10 was considered. It was not the only one.</p> <p>11 Q. What other factor in choosing data?</p> <p>12 A. In the case of my Medicaid analyses I</p> <p>13 basically examined state-specific claims data for</p> <p>14 16 states. And it is the case that for some of the</p> <p>15 remaining states -- perhaps Wyoming, for example --</p> <p>16 I don't recall if we have Wyoming, but perhaps</p> <p>17 Wyoming I had state-specific claims data as well.</p> <p>18 But as I detail in my report I use CMS, SMRF MAX</p> <p>19 data in lieu of the state claims data.</p> <p>20 So there's these 32 states that account</p> <p>21 for about 30 percent of the Medicaid spending where</p> <p>22 I utilize alternative data. So there are -- some</p>
<p style="text-align: right;">51</p> <p>1 certain time periods but quite incomplete for other</p> <p>2 time periods.</p> <p>3 Q. Let's stop with that example. That's a</p> <p>4 good one. So you may have a set of data that you</p> <p>5 view as most accurate, but because it's incomplete</p> <p>6 you would choose to use a different data set?</p> <p>7 A. Possibly.</p> <p>8 Q. Did you do that here?</p> <p>9 A. I want to go back and refresh my memory</p> <p>10 on one thing. So Indiana is one example of a state</p> <p>11 where I had claims data from the state --</p> <p>12 Q. State claims data.</p> <p>13 A. -- and did not use it because of</p> <p>14 something that was incomplete in that data. So</p> <p>15 that's one example.</p> <p>16 Q. Okay.</p> <p>17 A. There's many data sets, so it's hard for</p> <p>18 me.</p> <p>19 Q. Let's again stick with that. So in that</p> <p>20 case you considered the states claim data as the</p> <p>21 most accurate, but as an economist you decided that</p> <p>22 because it was incomplete you should use an</p>	<p style="text-align: right;">53</p> <p>1 of those 32 there are some cases where there were</p> <p>2 some state claims data beyond just Indiana.</p> <p>3 Q. Okay.</p> <p>4 A. So Indiana is one of the 32. And</p> <p>5 basically as an economist I know from my research</p> <p>6 that it is always possible to acquire and analyze</p> <p>7 more data. And one of the things that I've been</p> <p>8 trained to do is to determine where optimally to</p> <p>9 draw the line. And so to come up with accurate</p> <p>10 finding subject to constraints.</p> <p>11 Q. So as an economist I guess you made a</p> <p>12 professional judgment call for some of those 32</p> <p>13 states not to use state claims data, which I take</p> <p>14 it is the most detailed or accurate data, and</p> <p>15 instead to use other CMS data for those</p> <p>16 calculations, correct?</p> <p>17 A. That's correct.</p> <p>18 Q. Let me ask -- you mentioned the three</p> <p>19 groups working with you. And I don't want to beat</p> <p>20 that to death because I know you've been asked a</p> <p>21 lot about those groups. And we talked a little bit</p> <p>22 about Myers and Stauffer, so I think that's fine.</p>

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<p style="text-align: right;">54</p> <p>1 StoneTurn Group, and I don't know if it's Professor 2 Platt or Dr. Platt or what his title is. But did 3 you work directly with him? 4 A. I certainly worked with individuals at 5 StoneTurn. Not at their facility. So I wasn't 6 physically in the same location that they were in. 7 But the person I spoke with most frequently about 8 the data was Eric Hines, Eric Hines who works under 9 -- it's my understanding. I don't know exactly the 10 StoneTurn hierarchy, my understanding is that he 11 works under Simon Platt's direction. And so I had 12 many conversations with Eric Hines about the Roxane 13 transaction data. 14 Q. Okay. Let me specifically ask you about 15 Mr. Platt. I take it you know that he submitted a 16 report in this case against -- or in the Roxane 17 case. 18 A. That's my understanding. 19 Q. Have you ever spoken with Mr. Platt to 20 the best of your recollection? 21 A. Yes, I have. 22 Q. Did you speak with Mr. Platt before you</p>	<p style="text-align: right;">56</p> <p>1 and I understand Mr. Platt submitted a separate 2 report. And I'm just curious whether that report 3 and what's included in there you rely on or use 4 anywhere in your report. I truly just couldn't 5 figure that out. 6 A. Sure. So let me try and bring clarity. 7 Q. Okay. 8 A. I -- at my direction, StoneTurn, 9 individuals at StoneTurn -- and Simon Platt may 10 have done some of this work. Eric Hines might have 11 done some of this work. I don't remember the 12 breakdown of hours between those two. But at my 13 direction they took the Roxane transaction data and 14 aggregated it to the NDC, customer, quarter, class 15 of trade, and there may be a fifth. 16 Q. Okay. 17 A. And here I'm just not remembering. But 18 they aggregated the data. In many cases the 19 aggregate was the same as the individual number 20 because there would just be one record for an NDC 21 for a specific customer in a quarter. So in some 22 cases those aggregates were the same as the</p>
<p style="text-align: right;">55</p> <p>1 submitted your report which is Duggan Exhibit 1? 2 A. Yes, I did. 3 Q. You have? And did you talk to -- 4 MS. SIDRYS: Again, it's Mr. Platt? 5 MR. HENDERSON: Mr. Platt, I believe. 6 MS. SIDRYS: Mr. Platt? 7 BY MS. SIDRYS: 8 Q. -- specifically about issues or 9 information included in Duggan Exhibit 1? 10 A. Somewhat, though once again, I spoke more 11 with Eric Hines. And there is another person there 12 I spoke with. Dawn I believe is her first name and 13 I can't remember her last name. I can't remember 14 it, but I should know it. 15 Q. What was the role of Mr. Platt with 16 respect to the information opinions included in 17 your report, Duggan Exhibit 1? If that's not clear 18 I can rephrase. 19 A. Mr. Platt and others working at his 20 direction? 21 Q. Well, and let me be really clear here. 22 Because all I'm trying to figure out, sir, is --</p>	<p style="text-align: right;">57</p> <p>1 transaction data. They constructed these 2 aggregates for me, and we had some back and forth 3 about those aggregates and how to construct them 4 and so forth. 5 And I made use of those aggregates to 6 then myself calculate prices such as Roxane's 7 average price. 8 Q. Mm-hmm. 9 A. It's my understanding there might be 10 modest differences between exactly how I calculate 11 an average price and how -- in forming -- so one of 12 the things that I do in my analysis is calculate 13 various parameters from the price distribution. 14 Not just the average, but let's say the 95th 15 percentile. And one of the things I do is drop 16 let's say certain observations. For example, I 17 don't recall off the top of my head, but if there 18 was zero quantity for a customer in a quarter for 19 an NDC, I might drop in that instance. 20 So there might be modest deviations. And 21 in fact a bunch of the back and forth between me -- 22 between Eric Hines and myself -- reflected sort of</p>

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<p style="text-align: right;">58</p> <p>1 that issue, confirming that to the extent that 2 there were any differences they were modest. They 3 might have 17.0 and I might have 17.1, for example. 4 And so, you know, some discussion of that. 5 Q. The -- 6 A. But -- I'm sorry. Go ahead. 7 Q. The calculated average sales prices that 8 Mr. Platt comes up with in his report, did you use 9 those prices in your report? That's what I'm 10 trying to figure out. 11 A. I calculated them myself using their 12 aggregates that were defined in this way that would 13 lend themselves to -- like, he for example to the 14 best of my recollection didn't calculate a 95th 15 percentile. And I would need these aggregates by 16 customer. If I had just had total sales for an NDC 17 and total quantity for an NDC in a quarter, I 18 wouldn't be able to calculate a 95th percentile. 19 And that was one of the things I wanted to do, 20 which I did in my earlier reports as well, was to 21 get a sense of the heterogeneity in the data, how 22 much variation that was in the data.</p>	<p style="text-align: right;">60</p> <p>1 Q. Did you read his report or I guess a 2 draft of his report before submitting or issuing 3 your expert report, Duggan Exhibit 1? 4 A. I did not. 5 Q. Okay. Steck Consulting, very briefly, 6 can you just tell me what their role was? 7 A. So they stored, processed, analyzed the 8 Medicaid and Medicare claims data. That's one 9 example, stored and processed Medicaid and Medicare 10 claims data. They are local. They are here in 11 D.C. And I actually went to their offices on many 12 occasions to meet with them, to analyze data and so 13 forth as well. 14 Q. Okay. 15 A. So -- but their focus -- they did other 16 things. So once again, I -- but the primary -- 17 their primary focus was the Medicaid and Medicare 18 claims data. 19 Q. Okay. Your report, Duggan Exhibit 1, did 20 you type this, draft this, yourself? 21 A. Yes, with caveats. So the actual Word 22 portion, the Microsoft Word portion, yes. There</p>
<p style="text-align: right;">59</p> <p>1 Q. So there may be differences between Mr. 2 Platt's calculated numbers and yours, or there 3 probably are? 4 A. To the extent that there are -- it seems 5 plausible that there are, because I might have done 6 some things a tiny bit differently. But I tried to 7 detail in my report exactly what I would have done. 8 But I relied on data they constructed. 9 Q. And I followed that. I understand your 10 reliance on StoneTurn. And I am simply trying to 11 get to -- there is a separate report and if that 12 feeds into your report or if those numbers he 13 calculates feed into your report or not. 14 A. I think to some extent yes, in the sense 15 that they utilized the same underlying transaction 16 data. So there might be 10,000 transactions for a 17 given NDC in a given quarter. Those get aggregated 18 when they provide it to me to a customer, quarter, 19 NDC, class of trade. And so I don't want to 20 overstate. I just think there are little quirks -- 21 Q. There are some overlap? Is that fair? 22 A. Yeah. I think that's fair to say.</p>	<p style="text-align: right;">61</p> <p>1 are some cases in which I cut and paste tables that 2 either StoneTurn or Steck constructed. And so 3 because those -- you know, those are a part of my 4 report. But in terms of the text from pages 1 to 5 130, that is all -- those are -- I typed that. 6 Q. Okay. Let's talk about Medicare a little 7 bit. Let's see. I'm not going to go directly to 8 your report. But I think this starts around 96 of 9 your report. 10 A. Okay. 11 Q. Generally I think Medicare is covered -- 12 again, in the text, is covered between 96 and 129. 13 Okay? Now, with respect to Medicare you performed 14 -- and I think you referred to it earlier -- four 15 different analyses, right? 16 A. Technically five, because I did a Dey- 17 only as well. It's summarized in my table 39 or 18 whatever it is. I can't remember the number. 19 Q. Let's stick with the Roxane ones. 20 A. Right. I know. Right. 21 Q. I've got enough fish to fry here. But 22 with respect to Roxane you did four different</p>

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<p style="text-align: right;">62</p> <p>1 analyses, correct?</p> <p>2 A. Four different scenarios --</p> <p>3 Q. Scenarios?</p> <p>4 A. -- with many analyses underlining them.</p> <p>5 Q. That's fair enough. Good clarification.</p> <p>6 A. I don't mean to be --</p> <p>7 Q. No. That's fine. That was a good -- I</p> <p>8 was sloppy there. So if I'm paraphrasing this</p> <p>9 right, the first one you did, you replaced the AWP's</p> <p>10 for the Roxane ipratropium bromide products with</p> <p>11 125 percent of the indirect price.</p> <p>12 A. Pharmacy average, yeah, indirect price.</p> <p>13 Q. Thanks.</p> <p>14 A. Yeah. Sure.</p> <p>15 Q. And at that point you didn't change the -</p> <p>16 - you keep Dey out of it?</p> <p>17 A. Correct.</p> <p>18 Q. Okay. And then the second scenario is</p> <p>19 that same changes to Roxane's ipratropium bromide</p> <p>20 and then you also add in the Dey ipratropium</p> <p>21 bromide NDCs, right?</p> <p>22 A. Correct. And --</p>	<p style="text-align: right;">64</p> <p>1 difference is an aggregate of sort of for each</p> <p>2 DMERC quarter combination there's a particular</p> <p>3 array in effect. And so the analysis is sort of</p> <p>4 claim by claim. And so there's -- I guess I go</p> <p>5 through some examples of that in the report.</p> <p>6 Q. Let's get into that a little bit.</p> <p>7 Actually, I want to come back to this damages</p> <p>8 report because I know there's been a lot of back</p> <p>9 and forth in these depositions as to whether you</p> <p>10 have calculated damages or not. Is it your view</p> <p>11 that the four numbers in these four scenarios that</p> <p>12 you came up with with respect to Roxane are damages</p> <p>13 that you expect to present to the court and/or to</p> <p>14 the jury?</p> <p>15 A. These four sets of numbers -- because</p> <p>16 it's not just dollars. It's numbers of claims and</p> <p>17 so forth. So there are four sets of numbers. And</p> <p>18 five, really, because to the extent that I do</p> <p>19 Roxane-only I would do Dey-only as well. They</p> <p>20 represent the difference between what Medicare paid</p> <p>21 and what they would have paid if these alternative</p> <p>22 transaction-based AWP's had been used.</p>
<p style="text-align: right;">63</p> <p>1 Q. And then --</p> <p>2 A. Okay.</p> <p>3 Q. I'm sorry?</p> <p>4 A. No. You go ahead.</p> <p>5 Q. The third one you replace three of the</p> <p>6 six, Roxane ipratropium bromide products?</p> <p>7 A. The non-NovaPlus 8402 product codes.</p> <p>8 Q. 8402?</p> <p>9 A. Yeah.</p> <p>10 Q. And you exclude Dey from that?</p> <p>11 A. Correct.</p> <p>12 Q. And then finally the fourth is you</p> <p>13 replace three of the six Roxane ipratropium</p> <p>14 bromide, again, excluding NovaPlus and you add in</p> <p>15 Dey; is that correct?</p> <p>16 A. Correct.</p> <p>17 Q. And you come up with four different -- I</p> <p>18 understand your hesitancy to use the word</p> <p>19 "damages." So I'll stay away from that. You come</p> <p>20 up with four different calculated differences; is</p> <p>21 that right?</p> <p>22 A. That is correct. And basically the</p>	<p style="text-align: right;">65</p> <p>1 It is my understanding that these numbers</p> <p>2 -- in my view these numbers shed light on the</p> <p>3 effect of Roxane's published AWP's on spending for</p> <p>4 these programs, holding other factors constant. I</p> <p>5 am using the terminology -- I understand that this</p> <p>6 is a very important component, participants the</p> <p>7 only component to damages.</p> <p>8 But I've endeavored to utilize the</p> <p>9 language that is -- that I have used in my own</p> <p>10 research on Medicaid and Medicare, the kind of</p> <p>11 analysis damages -- so I did my best to come up</p> <p>12 with values for difference, number of claims and so</p> <p>13 forth, that would be helpful to the court and</p> <p>14 others with an interest in this case.</p> <p>15 And so I certainly would expect to</p> <p>16 provide numbers similar to those reported in, you</p> <p>17 know, for example, table 37 or elsewhere in the</p> <p>18 report to the court.</p> <p>19 Q. That's fair enough. Let's step back a</p> <p>20 little bit. As part of your Ph.D. program and as</p> <p>21 an economist do you have an understanding of what</p> <p>22 an economic damage analysis is?</p>

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<p style="text-align: right;">74</p> <p>1 I focused only on that product.</p> <p>2 Q. That's what I'm getting at. There is</p> <p>3 another drug, azathioprine. Did you do any</p> <p>4 analysis or form any opinions with respect to that</p> <p>5 drug?</p> <p>6 A. For Medicare, no. And to the extent that</p> <p>7 it's -- I may have done some within Medicaid. But</p> <p>8 for Medicare, no.</p> <p>9 Q. Now, you mentioned earlier that in --</p> <p>10 A. Can I just caveat that with one thing?</p> <p>11 Q. Sure.</p> <p>12 A. I summarized it. So that can cross the</p> <p>13 hurdle of -- just in terms of the spending on it.</p> <p>14 So for example in my tables like table 36, table</p> <p>15 35, and so forth, I summarize spending on those J-</p> <p>16 codes. But I don't conduct an analysis akin to</p> <p>17 what I do for ipra for those two J- codes.</p> <p>18 Q. 35. Can you just show me what J-codes</p> <p>19 you're talking about with respect to azathioprine?</p> <p>20 A. I believe those -- now, I don't have the</p> <p>21 -- it was my understanding that K0119. I may be</p> <p>22 misremembering, because this was not something that</p>	<p style="text-align: right;">76</p> <p>1 correct?</p> <p>2 A. Correct. Can I just take one second to</p> <p>3 look at something in my report?</p> <p>4 Q. Sure.</p> <p>5 A. (Reading). I was just looking at my</p> <p>6 Florida analysis where for the WAC I do both the</p> <p>7 direct wholesaler and the indirect pharmacy average</p> <p>8 just to sort of get a sense. One of the -- as I</p> <p>9 outline in my report, I begin by using from the</p> <p>10 direct data wholesaler's average net price of</p> <p>11 acquiring the products as the alternative WAC. But</p> <p>12 one point that I make is that many of these</p> <p>13 purchases will subsequently be sold to hospitals,</p> <p>14 for example, which tend to have lower prices than</p> <p>15 pharmacies.</p> <p>16 And so I take what -- I did the same</p> <p>17 thing in both Abbott and Dey. I take the more</p> <p>18 conservative approach of looking at the</p> <p>19 transactions from the wholesalers that are for the</p> <p>20 pharmacies. Those prices are going to tend to be</p> <p>21 higher than for all customers. And so as you can</p> <p>22 see on pages 41 and 42 of my report, I first use</p>
<p style="text-align: right;">75</p> <p>1 I focused on. But my recollection is that the</p> <p>2 bottom two J-codes, those are not ipratropium</p> <p>3 bromide -- it's hard enough for me to pronounce</p> <p>4 that one without --</p> <p>5 Q. Okay. And you believe those are the</p> <p>6 azathioprine J-codes?</p> <p>7 A. But I -- I think so, but I'm not a</p> <p>8 hundred percent sure.</p> <p>9 Q. In any event, you didn't do --</p> <p>10 A. I didn't do an analysis like with the</p> <p>11 arrays and so forth.</p> <p>12 Q. You didn't come up with differences for</p> <p>13 azathioprine, correct?</p> <p>14 A. That's correct. That's right. That's</p> <p>15 right.</p> <p>16 Q. Okay. You mentioned earlier that in</p> <p>17 coming up with your alternative prices you used</p> <p>18 Roxane's indirect transactional data, right?</p> <p>19 A. That is correct. With the alternative --</p> <p>20 yeah, that's right.</p> <p>21 Q. And you used the indirect transaction</p> <p>22 data both to calculate your revised AWP and WAC,</p>	<p style="text-align: right;">77</p> <p>1 the direct data to calculate the alternative WAC</p> <p>2 and get a -- and from that I arrive at a value of</p> <p>3 difference.</p> <p>4 But then I replace that with the indirect</p> <p>5 pharmacy, arriving at a lower value of difference</p> <p>6 for -- primarily for this reason that I outline</p> <p>7 that -- just to take a simple example, suppose that</p> <p>8 wholesalers acquire on average for 100, sell to</p> <p>9 hospitals for 90 and to pharmacies at 110. I'm</p> <p>10 using 110 as opposed to 100 in my analysis of what</p> <p>11 pharmacies are paying and in a sense dropping</p> <p>12 hospitals.</p> <p>13 And that turns out to be actually a big</p> <p>14 deal for certain products because of the disparity</p> <p>15 between hospital -- for example, hospital prices</p> <p>16 and pharmacy prices.</p> <p>17 Q. The numbers that you actually ended up</p> <p>18 using in your calculations to derive a difference</p> <p>19 were based on Roxane indirect transactional data,</p> <p>20 correct?</p> <p>21 A. Most of them. But I do provide some</p> <p>22 numbers using the direct data as well. I just want</p>

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<p style="text-align: right;">78</p> <p>1 to be clear. So the ones that I summarize let's 2 say in that big table at the end, these are all 3 using the alternative WAC, this pharmacy indirect 4 average. 5 Q. Okay. 6 A. And as I show for Florida, and I believe 7 this would be true in other cases as well, using 8 the average direct price, the net price at which 9 wholesalers acquire, would result in higher values 10 of difference. But this is an example of a place 11 where I believe that I'm being conservative and 12 telescoping in on the pharmacies as opposed to 13 allowing the hospitals to sort of have this effects 14 on pulling down prices. 15 Q. Let me just ask you this just so I'm sure 16 I understand. Page 2 of your report -- 17 A. Yeah. This's all, yeah, indirect. 18 Q. That's what I'm really trying to find out 19 is your total difference for Medicaid, it says 20 \$68.957 million. The component of that that 21 relates to any WAC states you're using based on 22 indirect data; is that right?</p>	<p style="text-align: right;">80</p> <p>1 the most part true, though I don't rule out that 2 Roxane had access to other data and included it. 3 And I should note that in doing this I did sort of 4 consider these alternative prices, for example, by 5 comparing averages from Roxane's indirect data with 6 averages from Cardinal Health, for example. And 7 they were in a similar ballpark. 8 However -- and similarly the -- it is my 9 understanding that the vast majority of shelf 10 cartons for these products that were sold to 11 wholesalers ultimately do appear in the indirect 12 data. So it is not the case, for example, that 13 they sell a million shelf cartons to wholesalers 14 and then 10,000 appear in the indirect data, just 15 as an example. 16 Q. Now, my understanding was that Roxane's 17 indirect sales data included contract customers and 18 customers -- to be clear, customers participating 19 in the wholesaler source program -- and did not 20 include off-contract sales. Is your understanding 21 different? 22 MR. HENDERSON: Objection.</p>
<p style="text-align: right;">79</p> <p>1 A. Yeah. Ultimately that's what I use. 2 Q. That's really all I'm trying to get at 3 there. 4 A. I didn't mean to bring up the -- 5 Q. No. That's fine. 6 What was your process of deciding to use 7 Roxane transactional data to come up with your 8 alternative price versus, say -- and I know this 9 was discussed in a prior dep, but versus, say, 10 wholesaler data, like Cardinal Health? 11 A. Well, it -- the indirect data -- Roxane's 12 indirect data -- it is my understanding that 13 Roxane's indirect data summarizes transactions made 14 through wholesalers that many, most, all of which 15 had a contract with Roxane of some type. 16 Q. That's actually a good point that I 17 wanted to clear up. The indirect sales data that 18 you use includes Roxane's contract sales and it 19 does not include Roxane's off-contract sales, 20 correct? 21 MR. HENDERSON: Objection. 22 A. It is my understanding that that is for</p>	<p style="text-align: right;">81</p> <p>1 MS. THOMAS: Objection. 2 A. I just -- once again, it is -- I don't 3 recall a statement that -- or I don't recall 4 reading that Roxane -- I don't want to make -- I'm 5 just saying that it is possible to me that Roxane 6 includes some. But even -- let's suppose that I 7 take what you said as true. And it seems plausible 8 that it's true. Having looked at the data myself 9 it is the case direct sales to wholesalers, the 10 vast majority of those shelf cartons do appear in 11 the direct data. 12 There may be cases. There may be 13 discrepancies, for example, partly because of 14 inventory. By the end of the time period 15 wholesalers would have some inventory. So one 16 would not expect a one for one correspondence. But 17 the vast majority of the products are ultimately 18 being sold. And moreover, it appears that there is 19 -- it is not a perfect correlation, but if one 20 looks at let's say Cardinal Health prices just as 21 one example and the prices for Roxane's indirect 22 data on average, the level and trend in them is</p>

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<p style="text-align: right;">82</p> <p>1 somewhat -- there's some differences. 2 They're not identical, because at some 3 level Cardinal just represents a subset of or 4 McKesson or AmeriSource or whoever, represents just 5 a subset of the customers. So in terms of a big 6 picture it is my sense from examining the data that 7 one gets a much better big picture from Roxane's 8 indirect data than from telescoping in on one 9 direct wholesaler. 10 MS. SIDRYS: Okay. Why don't we take a 11 break. The tape is about to run out. Do you want 12 to take a five minute break? 13 THE WITNESS: Sure. 14 THE VIDEOGRAPHER: Off the record. This 15 is the end of tape 1. Off the record at 11:35. 16 (Recess.) 17 THE VIDEOGRAPHER: This is the beginning 18 of tape 2 in the deposition of Dr. Duggan. On the 19 record at 11:49. 20 BY MS. SIDRYS: 21 Q. Okay. Professor Duggan, two things I 22 want to follow up on that we were talking about</p>	<p style="text-align: right;">84</p> <p>1 A. So yes. Just one example, I recall 2 discussing with Ian Dew at Steck Consulting -- I 3 believe it was Cardinal data. And so Cardinal is, 4 just to refresh my memory here for one second -- 5 Q. I think it's tab 8. 6 A. Right. 7 Cardinal is the second largest wholesaler 8 in terms of sales at contract in Roxane's data. 9 But it's -- there are many wholesalers in this 10 data. So I recall specifically talking with him 11 about the three ipratropium bromide NDCs and there 12 being a -- you know, the patterns that are being 13 identified. I certainly don't have it memorized 14 what the numbers were, but there weren't wide 15 disparities between -- in the levels for the trends 16 of the prices. 17 Q. Your recollection is that you had -- is 18 his name Drew? 19 A. Mr. Dew. 20 Q. That you had Mr. Dew come up with 21 alternative AWP and WAC prices using Cardinal 22 Health data?</p>
<p style="text-align: right;">83</p> <p>1 previously before break. We talked for a second 2 about Roxane's indirect transaction data and 3 whether or not it included off- contract sales. Do 4 you recall that discussion we were having? 5 A. Yes, I do. 6 Q. And have you seen any evidence showing 7 that such data did include off-contract sales? And 8 if so can you point me to it? 9 A. Not that I recall. 10 Q. Okay. 11 A. I'm just not ruling it out. 12 Q. You're not aware of any as you sit here? 13 A. That's right. 14 Q. Cardinal Health data or wholesaler data 15 we talked briefly about. And you mentioned that 16 you did consider at least using that data; is that 17 correct? 18 A. I considered that data. And it was my 19 decision to instead use the Roxane indirect data. 20 Q. Did you at any point -- you or anyone 21 under your direction -- calculate alternative 22 prices using any wholesaler data?</p>	<p style="text-align: right;">85</p> <p>1 A. Maybe -- I'm sorry if I wasn't clear. 2 Q. Okay. 3 A. What I asked -- what I recall discussing 4 with him -- and obviously a lot of analysis went 5 into this. But one of the things I can 6 specifically recall right here as we sit here 7 discussing with him was average prices in the 8 Cardinal data and how that corresponded to average 9 prices from Roxane's indirect data and there being 10 -- once again, for the reason I outlined earlier in 11 my judgment Roxane's indirect data is the most 12 appropriate data set to use for the analyses that I 13 did, as was true for Dey and Abbott before. But I 14 sort of thought about this issue of let's look at a 15 specific wholesaler. 16 No data set is perfect. But my sense by 17 having data for all, you know, dozens and dozens of 18 wholesalers in the indirect data as opposed to data 19 for just one wholesaler, perhaps Cardinal for 20 whatever reason charges higher prices than its 21 competitors or lower prices or -- you know. So 22 there's -- I recognize that there are pluses and</p>

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34 (Pages 130 to 133)

<p style="text-align: right;">130</p> <p>1 Q. Let me stop you there for a second. And 2 I should have asked you earlier. How did you 3 arrive at that time frame of 1996 to 2003? 4 A. Well, ipratropium bromide came into 5 effect in -- that's really -- if you look in the 6 data I don't think there was much reimbursement for 7 that J-code. I can just as a -- 8 Q. And that's fair enough. I just wanted 9 generally. 10 A. Yeah. 11 Q. That's fine. What about ending in 2003? 12 A. That was based on the instructions from 13 counsel very early on. 14 Q. Okay. Fair enough. Why don't you move 15 ahead. Sorry to interrupt you. 16 A. Sure. 17 At any period of time during the period 18 of interest there were four DMERCs, Palmetto, 19 AdminaStar, Cigna and DMERC A, which was either 20 Travelers or West New York, depending on the time 21 period. Each one of these DMERCs administered 22 claims for Medicare recipients and in processing</p>	<p style="text-align: right;">132</p> <p>1 number you would just take out the middle number, 2 correct? 3 A. Right. Or five it would be the third 4 one. Yeah. 5 Q. All right. Thanks. 6 A. Sure. 7 So each DMERC used arrays with several 8 products -- and the number of products generally 9 increased over time -- to arrive at a generic 10 median. And there was some variation across 11 carriers at a point in time, or within carriers 12 over time, with respect to exactly which products 13 were included. 14 So just -- I think it's helpful to me to 15 refer to an example of -- 16 Q. Well, can I ask you a first question 17 before you go to your example? 18 A. Sure. 19 Q. Do you know whether the AWP's that were 20 included in the arrays by the DMERCs were taken 21 from Red Book? 22 A. It is my understanding that in most cases</p>
<p style="text-align: right;">131</p> <p>1 those claims they used arrays to arrive at an 2 allowed amount per unit. In general the 3 methodology for the early part of the time period 4 consisted exclusively of taking the median of a set 5 of generic products that relate to the J-code. 6 So in the case of ipratropium bromide 7 early on they had two NDCs from Dey and two from 8 Roxane -- typically, I mean -- and then later three 9 apiece in these arrays and in some cases -- in most 10 cases there were generic products made by other 11 firms as well. 12 Q. Can I stop you there and ask you a 13 question about the example you just gave? 14 A. Sure. 15 Q. If there's an even number like in your 16 example of J-codes in the arrays, so four -- 17 A. Right. 18 Q. -- am I right that to arrive at the 19 median you take -- basically you throw out the 20 highest and the lowest and then the two -- 21 A. Take the average of the other two. 22 Q. Of the middle two. And if it was an odd</p>	<p style="text-align: right;">133</p> <p>1 the AWP's were obtained from the Red Book -- 2 Q. Okay. 3 A. -- although recognizing that it's a -- 4 there may have been deviations from that. But my 5 understanding is that -- 6 Q. Generally that is the case? 7 A. That's my understanding. 8 Q. And is that understanding based on -- 9 what? Testimony or what? 10 A. Based on my discussion with officials at 11 Myers and Stauffer, based on my examination of some 12 Red Book prices for earlier J-codes. I don't know 13 if I did this for ipra as well, but for earlier J- 14 codes. I remember doing it for sodium chloride, 15 looking at the Red Book and then at the array and 16 there being a correspondence. 17 Q. Did you for Roxane's AWP's that the DMERCs 18 included in the arrays, did you match those or 19 confirm that they were taken from the Red Book? 20 A. I personally did not. I understand that 21 Myers and Stauffer produced electronic versions of 22 these arrays. And the headings in many of these</p>

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35 (Pages 134 to 137)

<p style="text-align: right;">134</p> <p>1 arrays, if I recall, said AWP from Red Book or Red 2 Book AWP. But I can't recall if they checked 3 quarter by quarter, NDC by NDC. 4 Q. Okay. You don't recall giving Myers and 5 Stauffer, for instance, an instruction to check the 6 Roxane AWP's reported in the arrays against the 7 reported -- 8 A. Those in the Red Book? 9 Q. Those reported in the Red Book, yeah. 10 A. Not right now. But I had -- it seems 11 plausible that I did, but I just can't recall for 12 sure right now. 13 Q. Would that be something important to you, 14 whether or not such an analysis or test was done by 15 Myers and Stauffer to verify that the prices in the 16 arrays matched with the Red Book's? 17 A. It depends. 18 Q. Well, was it important to you? 19 A. I think that my analysis basically 20 assumes that had Roxane reported AWP's and the 21 pricing compendia used them, they would have been - 22 - with, you know, certain exceptions. But they</p>	<p style="text-align: right;">136</p> <p>1 it quite right, was that my assumption is that had 2 Roxane reported these alternative AWP's that I 3 calculate, the First Databank and/or Red Book would 4 have published them and they would have in most 5 cases been used by the DMERCs or the Medicaid 6 agencies. There are cases where they wouldn't be 7 used. 8 Q. Okay. 9 A. For example, New York federal upper 10 limits and so forth, but -- 11 Q. I follow you. And that was one of the 12 underlying assumptions of your analysis, correct? 13 A. That's kind of, yeah, embedded in the 14 analysis, right. 15 Q. Okay. Let's go back to the DMERCs and 16 their calculations of the arrays. 17 A. So yeah. I was still -- 18 Q. Jump back to where you were? That would 19 be great. 20 A. So the set of products in a certain 21 group, set of NDCs in a certain group, are 22 typically considered in the generic portion of the</p>
<p style="text-align: right;">135</p> <p>1 would have been utilized by the DMERCs and the 2 Medicaid agencies. 3 Q. Okay. 4 A. So it seems like -- I guess I would just 5 need to think a bit more about it. I know that in 6 some cases, for example, the Red Book, the 7 published Red Book, might drop a product. It just 8 may be by error. So there are -- inevitably there's 9 scope for discrepancies between what's in the Red 10 Book. But nothing -- I don't recall instructing 11 them to go through quarter by quarter, NDC by NDC, 12 to reconcile the AWP's in Red Book, electronic or 13 published paper version. 14 But as I said, it -- it's my 15 understanding that those are reflective of Red Book 16 prices, Red Book AWP's. 17 Q. I think you just said that one of your 18 assumptions was that Roxane reported its -- the 19 AWP's to Red Book which then in turn were used by 20 DMERCs in its arrays. Was that an important 21 assumption in your analysis? 22 A. No. What I meant to say, if I didn't say</p>	<p style="text-align: right;">137</p> <p>1 array. And the -- a calculation is made of the 2 median of those prices. Now, there are some 3 exceptions that Myers and Stauffer at my direction 4 tried to incorporate. I recall one array, for 5 example, they were listed in the array but they 6 were not considered in the median calculation. I 7 don't remember which NDC and which -- but there are 8 little nuances to this that with more than a 9 hundred arrays inevitably are going to arise. 10 Q. When you notice things like the example 11 that you just mentioned, that there were -- I think 12 you said NDCs that were listed in the array but not 13 part of the median analysis -- did I rephrase that 14 right? 15 A. Yes. 16 Q. Did you attempt to correct that or 17 attempt to reconcile that or just leave it be and 18 move on? 19 A. I did what I considered to be most 20 appropriate at the -- it depends. It depended. 21 The example I gave, I stuck with that because it 22 was clear -- I think there were six products in the</p>

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<p style="text-align: right;">150</p> <p>1 amount of sales. So I don't think it's -- I think 2 that -- once again, I haven't studied all the 3 factors. But I wouldn't be surprised that that was 4 one of the factors, the frequency with how these 5 products are being used in the marketplace, that 6 was considered. 7 Q. Did you ask counsel if there were written 8 guidelines or procedures that the DMERCs were 9 required to follow in constructing their arrays? 10 That you recall, sir. 11 A. When you say in constructing the arrays, 12 just so I understand, when they, A, determined 13 which products to include, and B, determined where 14 to put them? 15 Q. Exactly. 16 A. I do not recall asking for information on 17 that specific issue. 18 Q. If such guidelines existed is that 19 something that you would want to review in 20 performing your analysis with respect to Medicare 21 in calculating the Medicare differences? 22 A. My -- in my analysis I basically endeavor</p>	<p style="text-align: right;">152</p> <p>1 A. Yes. 2 Q. And did you -- when you were adjusting 3 the arrays and coming up with your analysis, did 4 you notice such variations among the DMERCs and 5 within the DMERCs? 6 A. I did. So for example, DMERC A was sort 7 of unique in that they did not treat NovaPlus as a 8 brand. And similarly, the trend was -- over time 9 was modest increase in the number of generic 10 products that were included in the arrays. So I 11 certainly -- I can't recall -- there were more than 12 a hundred arrays that I consider here. But just 13 generally the sort of high level first cut there's 14 certainly -- there is some variation at a point in 15 time and within a carryover time. And which one is 16 greater I'm not sure. 17 Q. Okay. Did you attempt when you were 18 recreating the arrays and coming up with your 19 alternative prices to correct for inconsistencies 20 amongst DMERCs and amongst periods of time within 21 the same DMERC? 22 A. No, because based on my previous</p>
<p style="text-align: right;">151</p> <p>1 with this exception and a few others elsewhere in 2 the report to determine how spending would have 3 changed if -- holding other factors constant. And 4 so for the question that I set out to answer, I 5 think that it's -- I don't think that would be 6 necessary. 7 Q. Okay. 8 A. I always like to learn. But it's -- for 9 the purposes of any analysis the DMERCs did what 10 they did. Based on what they did Medicare spending 11 would have been changed as I go through in the 12 report. 13 Q. Okay. You noted probably about 15 14 minutes ago and in your report that there were 15 variations in what DMERCs did. If you want to turn 16 to page 97 of your report that's where you discuss 17 it. And you note in the last sentence -- and I 18 think it's what you referred to in your testimony 19 earlier -- that "The NDCs that are included in an 20 array for a specific HCPCS code vary within the 21 same DMERC over time and occasionally vary across 22 DMERCs at a point in time." Do you see that?</p>	<p style="text-align: right;">153</p> <p>1 experience with J-code analysis and this -- it was 2 not a surprise to me that there was variation 3 across carriers or within carriers over time. So - 4 - but I did -- at some level I corrected for that 5 inconsistency to some extent when I do these no- 6 NovaPlus scenarios. 7 Q. And again, in footnote 82 you referred to 8 a few corrections you made, right? 9 A. Yes. That's right. 10 Q. Okay. Let's pull out a few arrays -- 11 A. Okay. 12 Q. -- just for sport. 13 MS. SIDRYS: This will be 3 and 4. Let's 14 just get them marked so we speed up a little. 15 (Exhibit Duggan 003 and Exhibit Duggan 16 004 were marked for identification.) 17 MR. HENDERSON: I'm sorry. What exhibit 18 is this? 19 MS. SIDRYS: We're on 3 and 4. I think 20 AdminaStar is 3 and Cigna is 4. 21 BY MS. SIDRYS: 22 Q. Professor, why don't you take a look at</p>

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<p style="text-align: right;">166</p> <p>1 those NDCs out before performing your calculations, 2 correct? 3 A. I used the arrays that they used. Yeah. 4 Q. And similarly you didn't add in -- if 5 AdminaStar had certain NDCs that were included in 6 its array, you didn't adjust Cigna's array and add 7 those NDCs in? 8 A. No. 9 Q. Right. 10 THE WITNESS: I don't know if we're at a 11 natural -- two minutes on the tape. 12 MS. SIDRYS: We can take a break. That's 13 okay. 14 THE VIDEOGRAPHER: Off the record at 15 2:48. 16 (Recess.) 17 (Exhibit Duggan 005 was marked for 18 identification.) 19 THE VIDEOGRAPHER: This is the beginning 20 of tape 3 in the deposition of Dr. Mark Duggan. On 21 the record at 3:05. 22 BY MS. SIDRYS:</p>	<p style="text-align: right;">168</p> <p>1 If you then go to the subsequent arrays, 2 the arrays themselves as opposed to just the 3 summaries of the arrays on subsequent pages, you 4 see that there was an array in effect in 2000 5 quarter 3 with nine NDCs and a later one with 6 twelve NDCs. And so -- 7 Q. Can I stop you just for a second so we're 8 matching pages and we know what you're talking 9 about? 10 A. Sure. 11 Q. The way I follow, on this document let's 12 go to around page 5 or 6 of that which I think 13 shows those nice little summaries that you have 14 done. 15 A. Okay. 16 Q. I did notice on that sheet some min/max, 17 pre/post, which I think is explaining what you're 18 doing with your missing arrays. 19 A. Yes. 20 Q. So maybe you can use that to explain it 21 to me. 22 A. That might be more --</p>
<p style="text-align: right;">167</p> <p>1 Q. Professor, we've handed you what has been 2 marked as Duggan Exhibit 5, which is the Palmetto 3 pricing array. You have that document in front of 4 you? 5 A. I do. 6 Q. Before we get to it, what I want to talk 7 about specifically with this array and just 8 generally is what you did when there were missing 9 arrays. So before we jump to this, can you explain 10 when there were missing arrays from the various 11 DMERCs how you handled it in your analysis? 12 Missing periods, I guess I should say. That's more 13 accurate. 14 A. Right. 15 So if we look down the right here on the 16 first page, you see there's a gap -- I'm going to 17 first focus on the second gap, or later gap. I'll 18 come back to an earlier gap. So there's a gap from 19 2000 quarter 3 to 2001 quarter 1 in the sense that 20 there's a 2000 quarter 4 missing there. In that 21 case if one then goes to -- it's useful to go to an 22 example.</p>	<p style="text-align: right;">169</p> <p>1 MR. HENDERSON: Looking at page 5 of 52 2 as identified in the lower left-hand corner? 3 MS. SIDRYS: Yeah. 4 A. All right. So basically, you can see 5 from this sheet, which is about page 5 -- yeah, 6 page 5 of 52 -- that in -- let's start with 1997, 7 quarter 4. 8 BY MS. SIDRYS: 9 Q. Okay. 10 A. There is -- Myers and Stauffer was unable 11 to locate the specific document that specified 12 here's the array that we used in 1997 quarter 4. 13 But they were able to find the analogous document 14 for 1997 quarter 3 and 1998 quarter 1. What you 15 can see from this is that the -- basically I take 16 in the alternative scenario, like the alternative 17 Dey-only, Roxane-only and Dey and Roxane combined 18 scenarios, I basically consider the effect in 19 adjacent quarters and take the level that would 20 minimize the total difference. 21 So a standard approach in economics when 22 data is missing would be to linearly interpolate.</p>

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<p style="text-align: right;">170</p> <p>1 Suppose a price in quarter 1 is 8 and in quarter 3 2 is 10 and you don't have quarter 2. You say it's 9 3 in quarter 2 to interpolate it. Here I am taking 4 the adjacent price -- instead of taking an average 5 of the two prices I'm taking the adjacent price 6 that will result in a lower value of different, 7 being conservative. 8 And here I'm basically saying that I will 9 assume that the array that was in effect was 10 whichever array will result in a lower amount paid 11 -- I mean a higher amount paid -- under the 12 alternative result scenarios. So as you can see 13 from the 1998 quarter 1 in let's say the Roxane- 14 only scenario, spending would be 2.50, the allowed 15 amount. 16 Q. Where are you? I'm sorry. 17 A. Once again, I'm on page 5, in the second 18 to last column. 19 Q. Quarter 1, 1998. 20 A. Yeah. So 2.50 '98 quarter 1 versus 2.70 21 in '97 quarter 3. And basically what I would do in 22 this case, I would use the higher of those two</p>	<p style="text-align: right;">172</p> <p>1 paid. 2 Q. You mentioned that sometimes you would 3 drop it. Did you generally where you were missing 4 arrays for certain quarters still come up with a 5 difference amount? 6 A. Yeah. In this example in 1999 quarter 1 7 for example I would be coming one a difference that 8 would be in my judgment generally lower than the 9 true difference if that array document had been 10 located. 11 Q. And you are -- by using the higher of the 12 -- 13 A. Allowed amount. So I'm lowering the 14 difference. 15 Q. No. My question was different. 16 By using the higher of the previous 17 quarter and the later quarter, you are assuming 18 that the quarter for which you are substituting 19 wouldn't have been higher than either of those 20 numbers? 21 A. That's correct. 22 Q. Okay. And I noticed cases where that</p>
<p style="text-align: right;">171</p> <p>1 amounts resulting in a lower overall difference. 2 Similarly, if one goes down to 1998 3 quarter 4 to 1999 quarter 3 you see there are two 4 quarters there in which the array information was 5 missing. And so rather than taking the average, 6 once again, I take the maximum allowed amount in 7 the two scenarios. And so rather than taking -- so 8 you can see that in the Roxane-only scenario the 9 allowed amount is 3.06 in '98 quarter 4. It's 99.5 10 in quarter 3. So rather than just linearly 11 interpolating I take what I consider to be the 12 quite conservative approach of using the 3.06 in 13 both of those quarters. 14 So that is the -- so basically I take the 15 maximum allowed amount from the adjacent quarters 16 when the data are missing with some caveats. Like 17 there are some cases where I just drop in certain 18 cases. But to the extent that -- but in these 19 examples, if I recall -- and I would want to -- 20 what I did here was -- and what, you know, Ian Dew 21 did at my direction at Steck -- was to use the 22 adjacent one that would result in a higher amount</p>	<p style="text-align: right;">173</p> <p>1 wasn't the case. Did you as well and try to adjust 2 for that? 3 A. What do you have in mind specifically? 4 Q. Turn a few pages back. Now that Bunker 5 is giving me page numbers, page 8 of 52. I notice 6 several, but here's an example. Let's go to 7 Roxane- only and let's look at 2000, quarter 2. 8 A. 2000 quarter 2? 9 Q. 2003. I'm sorry. Quarter 2. 10 In that case and looking at the J-code 11 7644 KO/KP, what I noticed is that the price is 12 3.34 whereas the quarter before is 0.71 and the 13 quarter after is 0.71. So under your analysis if 14 that array had been missing you would have put in 15 0.71 and put a much lower number in than actually 16 was the case. 17 A. Yeah. This is an interesting quarter in 18 the sense that it deviates from the adjacent 19 Palmetto quarters. It's the one quarter after I 20 believe it's 2001 quarter 1 or so when Palmetto 21 does not use NovaPlus as a brand in the array. 22 That is one example I suspect one could -- my sense</p>

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<p style="text-align: right;">174</p> <p>1 from working with this kind of data and, you know, 2 from examining more than a hundred arrays, is that 3 there may in some cases be -- this could have 4 happened in a case, although I think this time 5 period is very different from the earlier time 6 period to which we're comparing. But I think that 7 any example of that would be much more than offset 8 by the conservative of taking a max of the two. 9 So for this the coverage of the arrays 10 was quite considerable here. Not every quarter, 11 not literally every quarter, was included. But the 12 majority certainly were. 13 Q. Okay. So based on your judgment, your 14 expert opinion, you decided the method you used, 15 which was taking the higher of the prior quarter or 16 the previous quarter, was a fair estimate of 17 extrapolation for the missing array? 18 MR. HENDERSON: Objection. 19 A. In making that judgment, there were a 20 number of things that I considered. For example, I 21 could explore in the claims data whether the 22 allowed amounts would have ruled out the use of</p>	<p style="text-align: right;">176</p> <p>1 is included on subsequent worksheets within the 2 same Excel file. And so for example on tab -- the 3 Excel worksheet that's three sheets later than this 4 one has the array for '97 quarter 3. 5 Q. So my number 3 here to number 23, are 6 those missing arrays or no? 7 A. No, no, no. Those are arrays for which - 8 - 9 Q. For which you do have data? 10 A. Correct. 11 Q. So whatever is missing between 3 and 23 12 consecutively would be my way to identify what 13 arrays were missing? Is that accurate? 14 A. Correct. 15 Q. Okay. We're finished with that document. 16 A. That's if this is -- I obviously don't 17 have memorized are these are the right 21. But 18 that looks plausible to me. 19 Q. Professor -- 20 MS. SIDRYS: Can we go off the record for 21 one second? 22 THE VIDEOGRAPHER: Off the record at</p>
<p style="text-align: right;">175</p> <p>1 those adjacent arrays. So there are some things 2 that I did to drill down on this issue. But I -- 3 one -- the overall -- based on my familiarity with 4 these arrays, what these carriers were doing, I 5 feel very comfortable with that approach. 6 And to the extent it deviates I think it 7 will deviate low on difference rather than high on 8 difference relative to what would obtain if every 9 document in every quarter had been located. 10 Q. Did you perform an alternative analysis 11 just excluding those arrays for which you were 12 missing data? 13 A. I did not. 14 Q. And one final question on this, which is 15 actually just more an informative question. The 16 fourth page, which doesn't have a page number -- 17 and I notice this summary -- what's called tab 18 description in front of most of these arrays. Can 19 you just tell me what this is, or what this is 20 describing here? 21 A. My recollection is this is output from 22 one specific Excel worksheet that summarizes what</p>	<p style="text-align: right;">177</p> <p>1 3:20. 2 (Recess.) 3 THE VIDEOGRAPHER: On the record at 3:21. 4 BY MS. SIDRYS: 5 Q. Professor, we've talked pretty much 6 already about NovaPlus. I just want to ask you a 7 few final questions about it. 8 A. Okay. 9 Q. You mentioned several times that DMERC A 10 included NovaPlus ipratropium bromide as a generic. 11 Do you recall that? 12 A. Mm-hmm. 13 Q. And did it do that consistently 14 throughout the entire relevant time period, do you 15 know? 16 A. I don't have the comparable summary here. 17 But as I look to the -- I think the very last -- 18 second-to- last page of my report -- 19 Q. Of your exhibits? 20 A. Second to last -- table 39A. So page 195 21 of 196. 22 Q. Okay. A-ha.</p>

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<p style="text-align: right;">194</p> <p>1 A. Sure.</p> <p>2 Q. Well, basically how you did the</p> <p>3 allocation between Dey and Roxane is what I want to</p> <p>4 talk about. If you would turn to page 123, 124 of</p> <p>5 your report --</p> <p>6 A. And I realized that in looking this over</p> <p>7 that I had meant to have like Dey total and Roxane</p> <p>8 total at the bottom. I refer to it in any case.</p> <p>9 But when I created the print area I -- anyway. So</p> <p>10 --</p> <p>11 Q. You mean on the tables?</p> <p>12 A. I think I say something like in the</p> <p>13 bottom two rows of the table, and those two rows</p> <p>14 aren't in what's printed on this document. That's</p> <p>15 my mistake.</p> <p>16 Q. Okay. Let's see if we can move quickly</p> <p>17 through this. Maybe the easiest way, you know you</p> <p>18 talk about in your narrative at 123 and 124, but</p> <p>19 also you said it forth in your tables 37 -- well,</p> <p>20 let's talk about 37.</p> <p>21 A. Okay.</p> <p>22 Q. I just want to clear up that I am</p>	<p style="text-align: right;">196</p> <p>1 two Roxane-only scenarios and the Dey-only</p> <p>2 scenario. But for the reasons I outline -- I talk</p> <p>3 about this a bit -- if I can just refresh, because</p> <p>4 I think it would help me to -- so I have -- can I</p> <p>5 just read a couple sentences from my report? Is</p> <p>6 that okay?</p> <p>7 Q. Sure. Why don't you point me where you</p> <p>8 are.</p> <p>9 A. 126. The middle of 126. "As these two</p> <p>10 examples illustrate, depending on the prices of</p> <p>11 other firms' products in the array, the sum of the</p> <p>12 Roxane- only and Dey-only effects could lead to a</p> <p>13 zero difference or to a difference that is as much</p> <p>14 as twice as large as the combined value of</p> <p>15 difference. But the combined difference more</p> <p>16 accurately captures the effect of using alternative</p> <p>17 AWP's for the two firms' products with prices that</p> <p>18 are more reflective of actual transaction prices."</p> <p>19 So I just want to clarify that to the</p> <p>20 extent that I am sort of nudging the reader towards</p> <p>21 one or two or three or four or five of these five</p> <p>22 scenarios, it is -- the Roxane-only and the Dey-</p>
<p style="text-align: right;">195</p> <p>1 understanding what you are doing.</p> <p>2 A. Sure.</p> <p>3 Q. I think this is the easy one. In the</p> <p>4 Roxane- only scenario the entire difference you</p> <p>5 attribute to Roxane, fair?</p> <p>6 A. That reflects the effect on Medicare</p> <p>7 spending if I had replaced the Roxane -- all six</p> <p>8 Roxane products' AWP's as I detail in my report and</p> <p>9 taken it through claim by claim. So both the 8402s</p> <p>10 non-NovaPlus and the NovaPlus, that is, the total</p> <p>11 difference. So nothing -- no changes to Dey AWP's</p> <p>12 there.</p> <p>13 Q. And again, on table 37 what you have as</p> <p>14 scenario 1, which is Roxane-only with NovaPlus and</p> <p>15 scenario 2, which is Roxane-only no NovaPlus, your</p> <p>16 calculated difference of 1.1 billion --</p> <p>17 A. 1.169. Yup.</p> <p>18 Q. And the 234 million, those differences</p> <p>19 you attribute 100 percent to Roxane, correct?</p> <p>20 A. I'm basically here -- I'm not advocating</p> <p>21 -- I sort of talk about in my report this issue of</p> <p>22 the combined scenario being -- so the -- I do the</p>	<p style="text-align: right;">197</p> <p>1 only scenarios reflect the effect on Medicare</p> <p>2 spending for just replacing those firms' prices.</p> <p>3 But I think the combined scenarios for the reasons</p> <p>4 that I just read and detail more in the report, is</p> <p>5 -- I go through some examples, basically, in the</p> <p>6 report about why if -- you know, considering the</p> <p>7 two firms in isolation some peculiar things can</p> <p>8 emerge, you can get zero difference, you can get</p> <p>9 twice difference.</p> <p>10 So here -- but in any case, it is true</p> <p>11 that those first two scenarios that you just</p> <p>12 pointed to, those difference numbers are entirely</p> <p>13 driven by changes in the AWP's of Roxane products.</p> <p>14 Q. There were other manufacturers of</p> <p>15 ipratropium bromide during the relevant time frame,</p> <p>16 correct?</p> <p>17 A. Correct.</p> <p>18 Q. And you did not consider -- in your</p> <p>19 analysis, you do not alter those manufacturers'</p> <p>20 average wholesale prices and come up with</p> <p>21 differences for them, correct?</p> <p>22 A. That is correct. Though, if I can, I</p>

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<p style="text-align: right;">202</p> <p>1 based on their --</p> <p>2 A. Contribution.</p> <p>3 Q. -- relative differences as set forth on</p> <p>4 table 37?</p> <p>5 A. Yeah.</p> <p>6 Q. Let's talk for a second about table 38</p> <p>7 and 39, which I think you do refer to in your</p> <p>8 report, at least with respect to table 39, that</p> <p>9 another way of allocating the difference is by</p> <p>10 looking at relative market share?</p> <p>11 A. Correct.</p> <p>12 Q. Which is table 39, I think. Right?</p> <p>13 A. Correct. 39A and 39B. And there's a big</p> <p>14 difference between those two.</p> <p>15 Q. Now, on page -- on table 38 -- are you</p> <p>16 there or do you need the Bates number?</p> <p>17 A. I'm with you.</p> <p>18 Q. Table 38 shows that Roxane's market share</p> <p>19 -- total market share is 24.5 percent. Do you see</p> <p>20 that?</p> <p>21 A. Yeah. Over the --</p> <p>22 Q. Over the time frame?</p>	<p style="text-align: right;">204</p> <p>1 A. 1997 quarter 3?</p> <p>2 Q. Yeah. 1997 quarter 3, Roxane and Dey are</p> <p>3 making up 84 percent roughly --</p> <p>4 A. Yeah, mm-hmm.</p> <p>5 Q. -- of the market. And by 2003 quarter 4</p> <p>6 Roxane and Dey are making up approximately --</p> <p>7 A. 70 percent, 69 percent.</p> <p>8 Q. Yeah, roughly. 70 percent. So there's</p> <p>9 other manufacturers of ipratropium bromide that are</p> <p>10 in play sometime after 2000. You're right.</p> <p>11 A. Yeah.</p> <p>12 Q. Did you do an analysis -- skip the</p> <p>13 relatively market share for a while. Did you run</p> <p>14 the different calculations using the market share</p> <p>15 numbers included on tab 38? For instance, Roxane's</p> <p>16 share, that column, starting at zero percent going</p> <p>17 all the way to 9.8 percent, did you multiply that</p> <p>18 by Roxane's differences in the Dey and Roxane</p> <p>19 scenarios and attribute that to them?</p> <p>20 A. No. I used a slightly different -- I</p> <p>21 used the Roxane relative share.</p> <p>22 Q. Right. And we'll come to that in a</p>
<p style="text-align: right;">203</p> <p>1 A. The average -- yeah. Over the total time</p> <p>2 period.</p> <p>3 Q. And Roxane's market share dropped</p> <p>4 significantly from -- really throughout, but from</p> <p>5 1997 it's 61.5 percent Roxane --</p> <p>6 A. Mm-hmm.</p> <p>7 Q. -- for quarter 3 and it drops all the way</p> <p>8 in quarter 4 of 2003 to 9.8 percent. Do you see</p> <p>9 that?</p> <p>10 A. I definitely see that.</p> <p>11 Q. It also appears that there's more</p> <p>12 manufacturers that come into play in later years.</p> <p>13 Is that accurate?</p> <p>14 A. Right. I can't recall which one, but</p> <p>15 yeah.</p> <p>16 Q. And let's -- for example, for the 1997</p> <p>17 quarter 3 --</p> <p>18 A. Mm-hmm. Yeah. Something exits</p> <p>19 essentially. I don't remember what the other</p> <p>20 product is. And then something else enters in</p> <p>21 around 2000.</p> <p>22 Q. It looks like in 1993 quarter 3 --</p>	<p style="text-align: right;">205</p> <p>1 second.</p> <p>2 A. Yeah.</p> <p>3 Q. But did you also do an alternative</p> <p>4 analysis just using the market share data that is</p> <p>5 on 38 strictly?</p> <p>6 A. I did not.</p> <p>7 Q. And the relative market share numbers,</p> <p>8 which I believe are reflected on 39A and 39B?</p> <p>9 A. Yup.</p> <p>10 Q. Those you do use and you come up with an</p> <p>11 alternative number, right?</p> <p>12 A. That's right. That's right. And the</p> <p>13 thing about those two tables is that, as you can</p> <p>14 see -- so in the shaded regions -- and I shaded</p> <p>15 this just so that the reader could see where --</p> <p>16 when this happens -- in those shaded regions I take</p> <p>17 the approach of when NovaPlus is the -- is treated</p> <p>18 as a brand in the array all of the difference is</p> <p>19 going to Roxane there. Okay?</p> <p>20 So I did not -- I mean, one could. One</p> <p>21 could have basically scaled those numbers down.</p> <p>22 But in those cases you can see from that, whereas</p>

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<p style="text-align: right;">206</p> <p>1 in table 39B in the no-NovaPlus scenario that's not 2 the case. And so you can see if you sum up across 3 the bottom of that, you know, it's a very big 4 difference. 5 Q. Big difference? 6 A. Yeah. 7 Q. So if you sum up in your Dey Roxane 8 combined no- NovaPlus scenario, which is 39B, if 9 you add up the bottom the total is approximately 10 313 million attributed to Roxane based on relative 11 market share versus the 577 million you attribute 12 to it using your alternative analysis of -- 13 A. The -- yeah -- 14 Q. -- the 37? 15 A. -- the different effects. That's exactly 16 right. 17 Q. So 250 and some million dollar 18 difference? 260 and some million dollar difference? 19 A. Right. 20 Q. Are you at a time for a break? 21 A. This would be great. Sure. 22 THE VIDEOGRAPHER: Off the record at</p>	<p style="text-align: right;">208</p> <p>1 types of data that you used for your Medicaid 2 analysis. 3 A. Mm-hmm. 4 Q. And I have had the benefit of reading 5 some of your prior dep. So I'd try to at least 6 summarize some of what you said there and correct 7 me if I'm wrong. The state level claims data is 8 the most full-some data? Is that accurate? It 9 includes the most detail? 10 A. That is typically true, though there are 11 exceptions. Like, for example, the Indiana 12 exception and so forth. So each state's -- you 13 know, which variables are included and so forth 14 differs a bit. And so CMS sort of -- so, yeah. I 15 -- in the 16 states that I focus on initially I 16 primarily use the state claims data. 17 Q. And typically with the exception of 18 Indiana and a few others, the state claims data 19 includes the most detail; is that accurate? 20 A. True, although the MAX data and the SMRF 21 data, it has quite a bit of information in it as 22 well. So the SMRF MAX data is individual level.</p>
<p style="text-align: right;">207</p> <p>1 4:01. 2 (Recess.) 3 THE VIDEOGRAPHER: On the record at 4:15. 4 BY MS. SIDRYS: 5 Q. Okay. Professor, I'd like to switch 6 gears now and move to your Medicaid analysis. 7 Okay? 8 A. Okay. 9 Q. And again, for sake of efficiency the 10 alternative AWP and WACs that you calculate for 11 Medicaid is the same formula and used the same data 12 as you do for Medicare; is that correct? 13 THE WITNESS: I'm sorry. Can you just 14 read that back? 15 (Whereupon, the requested portion 16 was read by the reporter.) 17 A. Yeah. I used the same data and method to 18 calculate the alternative AWPs. WACs. Yeah. I 19 don't use WACs with Medicare. 20 BY MS. SIDRYS: 21 Q. Right. Claims data. I want to talk a 22 little bit about for your analysis the various</p>	<p style="text-align: right;">209</p> <p>1 Q. From what I understand, the SMRF MAX data 2 does not break out dispensing fee from ingredient 3 cost. Is that correct? 4 A. To the best of my recollection, that's 5 true. To the best of my recollection that's true. 6 Q. So sticking with the state claims data 7 for a second, the data includes the date service 8 began and completed, correct? 9 A. Yes. 10 Q. The paid amount? 11 A. I should just note on the date service 12 began and completed, typically they just give the 13 date they dispensed the prescription. They don't 14 necessarily -- there are exceptions, but they don't 15 necessarily have a date for how long the list 16 covered the person. 17 Q. Going back, it includes the paid amount, 18 correct? 19 A. Yeah. 20 Q. It includes the NDC? 21 A. Yes. 22 Q. It includes the billed amount?</p>

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<p style="text-align: right;">210</p> <p>1 A. Right. Or the usual and customary, 2 depending on the state. They call it different 3 things from one state to another. Charged amount, 4 billed amount, usual and customary. 5 Q. Well, that's a good point. It includes 6 the payment bases, the claims data or the state 7 claims data? 8 A. Typically, yes, it includes the 9 components. 10 Q. And there is indicator fields in the 11 state claims data of whether or not the state MAC 12 or the FUL would be used to determine the 13 reimbursement amount? 14 A. In some cases, yes. Not always. 15 Q. What states was that the not provided in 16 of the 16 that you looked at? 17 A. Well the -- I'll give you -- so one 18 example, New York does tell if a FUL is provided, a 19 FUL is utilized, in calculating the ingredient 20 cost. And New York is different from most states 21 in the sense that that FUL, even if it exceeded -- 22 ingredient cost that results from the FUL, even if</p>	<p style="text-align: right;">212</p> <p>1 Q. Let's take New York off the table for a 2 second. 3 A. Okay. 4 Q. What I'm really trying to find out is for 5 state claims data if typically there is an 6 indicator field for if a state MAC or state FUL is 7 used to determine the reimbursement amount. And my 8 understanding is there was, but if I'm wrong 9 correct me. 10 A. It's certainly true in a number of 11 states. And I don't -- of the 16 -- I just don't 12 have that number. I shouldn't speculate because I 13 just don't have that number in my head right now. 14 But it's provided in some states. I think there 15 are some states where it is not. And what the 16 breakdown is of the 16 I just don't know off the 17 top of my head. 18 Q. The dispensing fee is identified in the 19 state claims data, correct? 20 A. Typically, yes. 21 Q. How did you come up with using 16 states 22 for your difference calculation and extrapolating</p>
<p style="text-align: right;">211</p> <p>1 it exceeds the ingredient cost that would result 2 from the AWP, it is used. But that is not 3 typically true. 4 I don't recall which states exactly had 5 the FUL and MAC indicator. So there was some 6 variation. Some states had that indicator. Some 7 did not. 8 Q. Did you find it was generally the case 9 that it was included in the 16 states that you 10 looked at? 11 A. I think more often than not it was not. 12 So -- but I would need to -- you know, for the -- 13 as I sort of point out in my analysis, to the 14 extent that a MAC is used or a FUL is used in a 15 state like -- you know, in an alternative state 16 other than like let's say New York, if it fell 17 below the FUL or the MAC it would -- the AWP would 18 be used. 19 So New York was somewhat -- so for the 20 purposes of my algorithm it is whether -- the 21 alternative AWP's would be used in place of the FUL 22 and the MAC if true.</p>	<p style="text-align: right;">213</p> <p>1 the others? 2 A. So these 16 states account for about 70 3 percent of the prescriptions for the 35 products at 4 issue in the case. 5 Q. 70 percent of the prescriptions? 6 A. 68 percent, I believe. We can look. I 7 can go to table -- so 67 percent. 8 million 8 claims, table 29, for the 16. 7.98 million versus 9 3.96 million. So slightly more than two-thirds of 10 the prescriptions. 11 Q. Where are you looking at? 12 A. I'm sorry. Table 29. So if we go down 13 to the bottom. 14 Q. Yes. 15 A. You see the subtotal for the first 16 16 states, the number of claims. 17 Q. Okay. 18 A. The 7.89 million for those 16. And for 19 the remaining 3 it's 3.96 million. And so those 20 first 16 constitute a bit more than two-thirds of 21 the total claims. 22 Q. Okay. And that was relevant?</p>

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<p style="text-align: right;">214</p> <p>1 A. They're a third of the states and they're 2 two- thirds of the claims. So they're on average, 3 in terms of the number of claims, they're about 4 four times as high in terms of number of claims per 5 state as the other places. 6 Q. Was that relevant to you in deciding to 7 pick 16 versus 12 versus 18? 8 A. No. I'm just saying -- I just want to 9 point out that these 16 are generally the large 10 states. And so as an economist from my previous 11 research, as I sort of alluded to earlier, it is 12 always possible to acquire more data and so forth. 13 But part of what I've been trained to do is to 14 determine where it is -- where it's appropriate to 15 draw the line. 16 And so these -- and so it was my decision 17 to stop after 16 states and to use the experience 18 from those 16 states to estimate the value of 19 difference and so forth in the remaining 32. 20 Q. How as an economist did you determine 16 21 states versus -- 22 A. 17 or 15?</p>	<p style="text-align: right;">216</p> <p>1 have been there. And so I use an algorithm that is 2 -- that I define in detail in my report to estimate 3 this. But it is often the case in economics that 4 one doesn't acquire data for every state to learn 5 something about a program as a whole. 6 Just as one example, the Seminole 7 literature, the Seminole papers on the unemployment 8 insurance program, used administrative data for a 9 subset of states to learn something about the U.S. 10 unemployment insurance program as a whole. So this 11 is -- and many of those papers use six, seven, 12 eight states. So it is -- there's a trade- off. 13 It's not -- once again, it's not a black 14 and white world where -- it was my sense that 16 15 states, 70 percent of claims, 67 percent of claims, 16 you know, 15,000 -- I'm just trying to calculate 17 here. 50 or 60 quarters, 35 products, 16 states, 18 the number of sort of NDC quarter state 19 combinations that I'm using, an enormous amount of 20 information that would provide a reliable estimate 21 of the corresponding difference in the remaining 32 22 states.</p>
<p style="text-align: right;">215</p> <p>1 Q. Yes. Or 20. 2 A. In this -- in my analysis I focused -- I 3 set out to determine how Medicaid spending in the 4 U.S. would have changed if the alternative AWP's 5 that we've been talking about had been used in 6 adjudicating the claims. I selected the largest 7 states initially to focus on because they are going 8 to have the largest impact on that aggregate U.S. 9 number. 10 So for example it is not an accident that 11 I picked California, New York, Florida, before -- 12 rather than Wyoming, Vermont and Washington, D.C. 13 Because in converging to a result for the entire 14 U.S. those states are going to be the biggest 15 contributors to that. And then I basically -- 16 given my findings for these states 35 products -- 17 about how many quarters? 50 quarters, 16 states, 18 basically about tens of thousands of NDCs state 19 quarter combinations. 20 I used that information to then estimate 21 for the remaining states, many of which I did not 22 have the claims data for, what the difference would</p>	<p style="text-align: right;">217</p> <p>1 Q. You state in your report that these 16 2 states constitute or account for approximately 71 3 percent of total Medicaid spending. 4 A. Mm-hmm. 5 Q. My question is in deciding that 16 was 6 where, as you said, you were going to draw the 7 line, was it relevant to you that this was 71 8 percent of spending and I think you said 68 percent 9 of claims, or was there some percentage that you 10 had to get to that you felt comfortable with then 11 extrapolating your specific testing to the 12 remaining states? 13 A. So there's a lot in that question. From 14 the outset when I was first engaged on these cases 15 I -- given my sense of Medicaid programs in the 16 U.S. and pharmaceutical reimbursement, from the 17 outset my -- before drilling down on the issue my 18 goal was to acquire state claims data for the 19 majority of claims in the U.S. And I pushed that 20 further as I learned a bit about the -- that there 21 was some heterogeneity across the states. 22 And based on, you know, my experience</p>

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<p style="text-align: right;">252</p> <p>1 PROCEEDINGS</p> <p>2 (9:35 a.m.)</p> <p>3</p> <p>4 THE VIDEOGRAPHER: Today's date is March</p> <p>5 6th, 2009. This is day two in the deposition of</p> <p>6 Dr. Mark Duggan. The witness has previously been</p> <p>7 sworn in. This deposition commences at 9:35. You</p> <p>8 may proceed.</p> <p>9</p> <p>10 Whereupon,</p> <p>11 MARK G. DUGGAN, PH.D.,</p> <p>12 called as a Witness, having been previously duly</p> <p>13 sworn by Jonathan Wonnell, a Notary Public in and</p> <p>14 for the District of Columbia, was further examined</p> <p>15 and testified as follows.</p> <p>16</p> <p>17 EXAMINATION RESUMED BY COUNSEL FOR ROXANE</p> <p>18 LABORATORIES AND BOEHRINGER INGELHEIM</p> <p>19 BY MS. SIDRYS:</p> <p>20 Q. Good morning, Professor Duggan.</p> <p>21 A. Good morning.</p> <p>22 Q. You understand that you're still under</p>	<p style="text-align: right;">254</p> <p>1 actual average price. That's actually the first</p> <p>2 price that I use in -- I think California is the</p> <p>3 first state where I go through several alternative</p> <p>4 calculations. However, I -- and that is, in my</p> <p>5 judgment, not an entirely unreasonable thing to</p> <p>6 do.</p> <p>7 However, in the interests of being</p> <p>8 conservative, recognizing that many states employ</p> <p>9 formulas that reimburse AWP minus 5 percent, AWP</p> <p>10 minus 10 percent, and so forth, this 25 percent</p> <p>11 cushion, this 25 percent markup over the actual</p> <p>12 average price had resulted in the ingredient cost</p> <p>13 being in virtually every case -- the ingredient</p> <p>14 cost reimbursement in virtually every case greater</p> <p>15 than the actual average price. So that was sort</p> <p>16 of one of the factors that I considered.</p> <p>17 I didn't -- my goal in the analysis was</p> <p>18 to determine to what extent Medicare and Medicaid</p> <p>19 would have paid less if prices that were more</p> <p>20 reflective of actual transaction prices had been</p> <p>21 used as the AWP's and the WACs.</p> <p>22 Q. Where did the actual 25 percent come</p>
<p style="text-align: right;">253</p> <p>1 oath today?</p> <p>2 A. I do understand that.</p> <p>3 Q. I have a few follow-up questions from</p> <p>4 yesterday that I want to come back to. Your</p> <p>5 alternative AWP price that you calculated, you</p> <p>6 replaced with 125 percent or used a 25 percent</p> <p>7 markup. Can you explain how you came up with that</p> <p>8 25 percent?</p> <p>9 A. I introduced this margin between actual</p> <p>10 average prices and the prices that I used, this 25</p> <p>11 percent margin, with an eye toward the -- one of</p> <p>12 the factors that I considered in using 125 as</p> <p>13 opposed to a different -- 100 percent or 150</p> <p>14 percent or what have you -- was that if you look</p> <p>15 over the time period of interest in this case, a</p> <p>16 number of state Medicaid programs and the federal</p> <p>17 Medicare program later employed adjudication</p> <p>18 methodologies that used AWP minus a certain</p> <p>19 amount.</p> <p>20 At some level the most natural price at</p> <p>21 first blush without sort of drilling down and</p> <p>22 thinking about the complexities, would be the</p>	<p style="text-align: right;">255</p> <p>1 from? That's what I'm trying to figure out, is why</p> <p>2 is it 25 percent versus 30 versus 15? How did you</p> <p>3 derive the 25 percent?</p> <p>4 A. As I said yesterday, it is -- there is</p> <p>5 nothing magical about 25 percent. It is -- you</p> <p>6 know, it's not like that is obviously superior to</p> <p>7 24 or 26, just going on either side. It is,</p> <p>8 however, the case that if one examines the</p> <p>9 Medicaid adjudication algorithms to this factor</p> <p>10 that I just introduced, had I let's say used 105</p> <p>11 percent -- had I let's say used 105 percent, there</p> <p>12 would have been a significant number of cases in</p> <p>13 which reimbursement would have fallen below actual</p> <p>14 average price.</p> <p>15 And so -- not to say that's necessarily</p> <p>16 -- so that was sort of one of the factors why 125</p> <p>17 as opposed to 110, let's say. Why 125 as opposed</p> <p>18 to higher numbers, you know, here I -- as I</p> <p>19 mentioned, I introduced this cushion so that in</p> <p>20 virtually every case the ingredient cost will be</p> <p>21 at or above -- ingredient cost reimbursement will</p> <p>22 be at or above actual average prices.</p>

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May 18, 2009

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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

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IN RE: PHARMACEUTICAL	:	MDL NO. 1456
INDUSTRY AVERAGE WHOLESALE	:	CIVIL ACTION
PRICE LITIGATION	:	01-CV-12257-PBS
THIS DOCUMENT RELATES TO	:	Subcategory No.
U.S. ex rel. Ven-a-Care of	:	06-CV-11337-PBS
The Florida Keys, Inc.	:	Judge Patti B. Saris
v.	:	
Boehringer Ingelheim	:	
Corporation, et al., Civil	:	
Action No. 07-10248-PBS	:	Chief Magistrate
No. 06-CV-11337-PBS	:	Judge Marianne B.

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<p style="text-align: right;">170</p> <p>1 scenario and the -- so in any case, it's -- I've</p> <p>2 provided both the no Nova Plus scenario and the</p> <p>3 scenario with Nova Plus, because I think that would</p> <p>4 be an issue deserving of further study.</p> <p>5 Q. The no Nova Plus scenario is one -- one</p> <p>6 way to think about dealing with the potential mistake</p> <p>7 with respect to Nova Plus?</p> <p>8 A. That's correct. I just -- I guess I just</p> <p>9 don't want to assert that that's the only way because</p> <p>10 it's a bit of a tricky -- correcting a mistake that,</p> <p>11 the effect of how it's corrected would have a big,</p> <p>12 could have a big impact. So I -- but it's one way</p> <p>13 and so I'm using your phrase, that one way.</p> <p>14 Q. I just want to see if -- strike that. My</p> <p>15 question is whether we can agree or whether it's your</p> <p>16 opinion that the mistake should be corrected in some</p> <p>17 fashion. I'm not asking particularly what you think</p> <p>18 the correction necessarily would be?</p> <p>19 A. Right.</p> <p>20 Q. But rather that the mistake should be</p> <p>21 corrected as the misclassification of the Roxane</p> <p>22 ipratropium bromide was corrected in the analyses.</p>	<p style="text-align: right;">172</p> <p>1 point, we could get a three or four-minute break for</p> <p>2 a rest room break.</p> <p>3 Q. Sure. Want to do it right now?</p> <p>4 A. Yes.</p> <p>5 THE VIDEOGRAPHER: Off the record at 2:16.</p> <p>6 (Recess.)</p> <p>7 THE VIDEOGRAPHER: On the record at 2:24.</p> <p>8 BY MR. GORTNER:</p> <p>9 Q. Professor Duggan, I apologize. You</p> <p>10 mentioned during the break that there was something</p> <p>11 you wanted to add.</p> <p>12 A. Right. I just -- so Mr. Henderson did</p> <p>13 remind me of something. It's hard for me to remember</p> <p>14 all of the specific details of these analyses. We</p> <p>15 are drilling down to a pretty specific level, but</p> <p>16 part of the rationale for reintroducing the --</p> <p>17 retaining the Nova Plus NDCs in the generic arrays</p> <p>18 was instead of as sort of mentioned, I did in the</p> <p>19 first report, pretending the products weren't even</p> <p>20 included anywhere in the array, but instead, assuming</p> <p>21 no liability for the Nova Plus NDCs, and thus not</p> <p>22 revising their AWP.</p>
<p style="text-align: right;">171</p> <p>1 MR. HENDERSON: Objection. I don't</p> <p>2 understand the question.</p> <p>3 THE WITNESS: I guess I would just say</p> <p>4 that it would be as new information was provided or</p> <p>5 if information -- the -- I guess it is -- I think</p> <p>6 it's a -- it would be potentially a topic deserving</p> <p>7 of more study. And it seems plausible that if Nova</p> <p>8 Plus were indeed a generic it seems plausible that</p> <p>9 some correction would be reasonable.</p> <p>10 BY MR. GORTNER:</p> <p>11 Q. You provided one instance in your no Nova</p> <p>12 Plus scenario?</p> <p>13 A. Right.</p> <p>14 Q. Is that right?</p> <p>15 A. That's right.</p> <p>16 Q. Do you remember reading any testimony from</p> <p>17 any individual who worked for these DMERCs regarding</p> <p>18 classification of Nova Plus as a brand or a generic?</p> <p>19 A. I believe there was someone at Administar</p> <p>20 and I cannot remember her, I think it was a woman at</p> <p>21 Administar. But I considered it. I certainly didn't</p> <p>22 read it cover to cover. And I just wonder if at some</p>	<p style="text-align: right;">173</p> <p>1 So in other words, just leaving them</p> <p>2 wherever they were, but not revising their AWP's at</p> <p>3 all. I just wanted to make that -- I had forgotten</p> <p>4 and Mr. Henderson reminded me.</p> <p>5 Q. Now, going back to your no Nova Plus</p> <p>6 versus Nova Plus scenarios, did you conduct any other</p> <p>7 analyses that you did not include in your report to</p> <p>8 address for the potential mistake of the DMERCs</p> <p>9 misclassifying Nova Plus as a brand product?</p> <p>10 A. Not that I recall. These were the two</p> <p>11 main ones were the no Nova Plus scenario that I</p> <p>12 describe and the with Nova Plus scenario that I</p> <p>13 described.</p> <p>14 Q. Okay. Those are the two?</p> <p>15 A. Those are the two.</p> <p>16 Q. We are talking over each other. I'm sorry</p> <p>17 about that. Let's try that again. So the no Nova</p> <p>18 Plus model would be the model that would address the</p> <p>19 potential mistake that we just talked about?</p> <p>20 A. Yes.</p> <p>21 MR. HENDERSON: Objection.</p> <p>22 THE WITNESS: But, as I did say, it is --</p>

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<p style="text-align: right;">174</p> <p>1 those are the two that I did, and I suppose one 2 could -- those were the two that I -- that I did, and 3 the no Nova Plus one that I did in which I didn't 4 change any of the Nova Plus products' AWP's, and left 5 the other things the same. That was the approach 6 that I took.</p> <p>7 BY MR. GORTNER:</p> <p>8 Q. Now, in discussing the Nova Plus scenario, 9 one of the factors that you raised was this notion of 10 Roxane's market share declining over the period at 11 which you were assigning 100 percent of the Nova Plus 12 damages to Roxane? Do you remember that?</p> <p>13 A. I do.</p> <p>14 Q. Can you explain further what reservation 15 or concern or issue you have with respect to the 16 notion of assigning a hundred percent of these large 17 damages in the face of Roxane's market share 18 declining at the same time?</p> <p>19 A. In the -- in the scenario in which I leave 20 Nova Plus AWP's unchanged, I attribute difference to 21 Roxane in each quarter according to its share of Dey 22 plus Roxane Medicaid prescriptions. The primary</p>	<p style="text-align: right;">176</p> <p>1 Roxane's total -- Roxane's share of it is quite a bit 2 lower.</p> <p>3 So it is, if we look, for example, at a -- 4 I don't know if I have this in my -- if -- so let's 5 just take as an example the fourth quarter of 2002 6 when there is about 75 million in difference in the 7 no Nova Plus scenario. It's probably even higher in 8 the Nova Plus scenario. Let's say it's 100 million. 9 To allocate all 100 million to Roxane when they have 10 24 percent at some level seems inappropriate to me.</p> <p>11 Q. As an economist, it seems inappropriate, 12 you said?</p> <p>13 A. Yes. As an economist, it would seem 14 inappropriate. But there is this issue of causation. 15 What did Nova Plus's AWP's do to the allowed amount? 16 So it's a -- it is a tricky issue. And I mean, as I 17 mentioned earlier, I went through all this extra work 18 in the no Nova Plus scenario because I was uneasy 19 about allocating 100 percent to Roxane.</p> <p>20 Q. Can you explain why it's inappropriate to 21 allocate it all to Roxane?</p> <p>22 MR. HENDERSON: Objection.</p>
<p style="text-align: right;">175</p> <p>1 reservation that I had with assigning 100 percent to 2 Roxane in these latter periods was that it was being 3 driven by three products with almost no utilization. 4 And that would be less problematic if 5 Roxane's relative share had gone in the opposite 6 direction that it went, instead of falling from 100 7 to 14, had risen from 14 to 100 over time. But 8 instead, its market share did decline substantially. 9 And so with -- it seems plausible that one in five 10 prescriptions during this period were for Roxane 11 products, let's say 2002, 2003, and yet they would 12 be, you know, about four in four out of Dey plus 13 Roxane, yet they would be getting 100 percent of the 14 difference.</p> <p>15 So at some level, there is sort of two 16 issues. There is the impact of the NDC's on the 17 allowed amount, and then whatever difference emerges 18 from that, there is allocating that difference among 19 the -- among the firms. And in my no Nova Plus 20 scenario, I allocate that according to Roxane's 21 relative share of the market. And thus later in the 22 period, even though difference is relatively high,</p>	<p style="text-align: right;">177</p> <p>1 THE WITNESS: You know, once again, I 2 think this is -- to some extent, there is a legal 3 issue in here, which I'm not a lawyer. This issue 4 of, you know, the issue of whether the no -- I think 5 it's partially a legal issue, this issue of whether 6 the no Nova Plus or the Nova Plus scenario is the 7 more appropriate one.</p> <p>8 But speaking as an economist, if Roxane -- 9 if the combined impact of Roxane and Dey's behavior 10 is to increase Medicare spending by 100 million, and 11 Dey has three times as many prescriptions as Roxane 12 during that period, then it seems at some level -- 13 and I'm qualifying this, because there are these 14 other factors -- appropriate to me to allocate the 15 difference according to each firm's market share. 16 You know, its relative market share, you know, 17 cutting against, I guess, the other firm, Dey would 18 argue, well, it wouldn't have -- like that -- this -- 19 that the -- in these scenarios, in the combined 20 scenario, with Nova Plus, it is the Nova Plus AWP's 21 that drive the allowed amount.</p> <p>22 And so if one had the view, and I think</p>

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<p style="text-align: right;">190</p> <p>1 Q. I apologize, Professor, finish.</p> <p>2 A. The median is falling by much less than</p> <p>3 Roxane's AWP. And in, I think, the majority of DMERC</p> <p>4 quarter combinations late in the period, Roxane only</p> <p>5 no Nova Plus, they are getting zero. So they are</p> <p>6 basically, in a sense, I think that if one wants to</p> <p>7 use market shares, one has to then incorporate the</p> <p>8 behavior of two or more firms.</p> <p>9 And so in these Dey and Roxane scenarios,</p> <p>10 I've analyzed how big is the difference if they both</p> <p>11 had produced alternative AWP's, and then we allocate</p> <p>12 that combined difference according to each firm's</p> <p>13 market share. As you can see, the sum of the Roxane</p> <p>14 only no Nova Plus and the Dey only is much lower than</p> <p>15 the Dey and Roxane combined scenario.</p> <p>16 So -- and this is -- gets to my point that</p> <p>17 these scenarios with Roxane only are much more</p> <p>18 favorable. Essentially the no Nova Plus is much more</p> <p>19 favorable to Roxane than the Dey and Roxane combined</p> <p>20 scenario, even though -- so the combined one is</p> <p>21 bigger. It's interesting. Roxane and Dey have a</p> <p>22 comparable sort of only effect. 234 and 213 million.</p>	<p style="text-align: right;">192</p> <p>1 Q. And in the Dey and Roxane scenario, you</p> <p>2 don't apply Roxane's market share considering all</p> <p>3 competitors. You assume that Dey and Roxane are the</p> <p>4 entire marketplace, is that right?</p> <p>5 MR. HENDERSON: Objection.</p> <p>6 THE WITNESS: It's -- I think it is -- I</p> <p>7 allocate the difference to each according to its</p> <p>8 relative share. If -- to use the full market share,</p> <p>9 their share of all Ipra prescriptions, as I sort of</p> <p>10 discuss in my April 23rd report, one can do the</p> <p>11 combined difference for everybody, if all of the</p> <p>12 firms had reported accurate AWP's. And I think then</p> <p>13 the difference is like 1.5 million -- billion. And</p> <p>14 then one can allocate that difference as a function</p> <p>15 of each firm's share of all firms.</p> <p>16 But for the -- for the Dey and Roxane,</p> <p>17 when we are considering the behavior of Dey and</p> <p>18 Roxane, Dey had a certain effect, 1.1 billion. 300</p> <p>19 million of that goes to Roxane, 800 million of that</p> <p>20 goes to Dey, given their relative market shares. If</p> <p>21 we did all firms, we would have 1.5 billion, and I</p> <p>22 think it would still be about 300 million and 8 or</p>
<p style="text-align: right;">191</p> <p>1 But when you do the combined and allocate</p> <p>2 according to each market share, Roxane's share is, I</p> <p>3 think, like 311. So theirs goes up by about, I don't</p> <p>4 know, 70 some odd millions dollars. Dey's goes up</p> <p>5 enormously because they are penalized there for</p> <p>6 having the much larger market share in that scenario.</p> <p>7 But I think -- it's kind of an either -- I don't -- I</p> <p>8 took care to provide several scenarios that I thought</p> <p>9 would be of assistance to the Court and others</p> <p>10 interested in the case.</p> <p>11 Q. Let me see if I can -- if I can ask a</p> <p>12 question that may be answered in a yes or no fashion.</p> <p>13 A. I'm sorry. I'm trying.</p> <p>14 Q. The question here is, at no point in these</p> <p>15 analyses in your report did you allocate</p> <p>16 responsibility for your difference calculations based</p> <p>17 on Roxane's actual market share in the marketplace.</p> <p>18 Is that -- can you answer that yes or no?</p> <p>19 A. In the Roxane only scenario?</p> <p>20 Q. Uh-huh.</p> <p>21 A. Right. That did not make use of the</p> <p>22 Roxane market shares. That's correct.</p>	<p style="text-align: right;">193</p> <p>1 900 million. It would be about the same in those two</p> <p>2 scenarios.</p> <p>3 So it is -- it is the -- using their share</p> <p>4 of the full market would necessitate changing the</p> <p>5 AWP's in my -- in this framework would necessitate</p> <p>6 revising the AWP's of all firms' products in the</p> <p>7 arrays.</p> <p>8 BY MR. GORTNER:</p> <p>9 Q. And just to be clear, you didn't do that</p> <p>10 analysis, you didn't have at your fingertips the</p> <p>11 transactional data of all the firms that were selling</p> <p>12 ipratropium bromide in this time period or calculated</p> <p>13 revised AWP's for those firms, did you?</p> <p>14 A. I did not. For illustrative purposes, I</p> <p>15 assumed that the price would be 106 percent of -- I</p> <p>16 did compare Dey and Roxane prices for Ipra, which</p> <p>17 were very, very, very similar for -- when you compare</p> <p>18 apples to apples, the 25s, the 30s and the 60s.</p> <p>19 But I basically -- this wasn't one of the</p> <p>20 scenarios that I did in my initial report, but just</p> <p>21 so that the Court and others with an interest in the</p> <p>22 case could gauge the potential magnitude of doing</p>